JPD100PLO

JOYSTICK CONTROLLER

USER'S MANUAL

Ultrak®, Inc.
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518007-4960

KEMU040020
April 25, 2001

WARNING

NOT FOR OUTDOOR USE.

TO REDUCE A RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

WARNING

THIS IS A CLASS A PRODUCT. IN A DOMESTIC ENVIRONMENT, THIS PRODUCT MAY CAUSE RADIO INTERFERENCE IN WHICH CASE THE USER MAY BE REQUIRED TO TAKE ADEQUATE MEASURES.

NOTE

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

Manual History
Issue 1 – April 25, 2001

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April 25, 2001

DECLARATION OF CONFORMITY

To The European Community Council Directive 89/336/EEC

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MANUFACTURER: Ultrak®, Inc.
DATE OF ISSUE: December 22, 1995
TYPE OF EQUIPMENT: CCTV and Security Surveillance Equipment

MODEL NUMBER:

Alarm Interface Unit
AIU-100 - may be followed by any number of alphanumeric characters.
Auxiliary Interface Units
AIF-100/CO
Central Control Unit
CCU-100 - may be followed by any number of alphanumeric characters.
CCU-150 – may be followed by any number of alphanumeric characters.
CCU-200 – may be followed by any number of alphanumeric characters.
Joystick Multiplexer
MUX-100 – may be followed by any number of alphanumeric characters
MUX-05 – may be followed by any number of alphanumeric characters
Joystick Controller*
JPD-100, JPD-101, JPD-200 - may be followed by any number of alphanumeric characters.
Small System Interface*
SSI-100 - may be followed by any number of alphanumeric characters.
Control Output Expander
COE-08, COE-16 - may be followed by any number of alphanumeric characters
Control Receiver
CRX-610/BX, CRX-801AX, CRX-801BX

*Standard EN60065 does not apply.

STANDARDS TO WHICH CONFORMITY IS DECLARED:

EN50081-1 Emissions Standard, and EN50082-1 Immunity Standard.
EN55022 Radiated, Class A, **EN55022** Conducted, Class A, **IEC-1000-4-2**, ESD, **IEC-1000-4-3**, RF Fields, **IEC-1000-4-4**, Fast Transients/Burst.
EN60065 Safety Requirements for Mains Operated Electronic and Related Apparatus for Household and Similar General Use

Ultrak®, Inc. hereby declares that the models specified above conform to the directive and standard as specified.

Donald L. Stephenson
Compliance Engineer
517775-3 Rev. O August 25, 1999

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April 25, 2001

IMPORTANT SAFEGUARDS

1. Read Instructions - All the safety and operating instructions should be read before the unit is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the unit and in the operating instructions should be adhered to.
4. Follow Instructions - All operating and use instructions should be followed.
5. Cleaning - Unplug the unit from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning. See cleaning procedures under Maintenance.
6. Water and Moisture - Do not use this unit near water or in an unprotected outdoor installation, or any area which is classified as a wet location.
7. Accessories - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only with a stand, tripod, bracket, or mount recommended by the manufacturer, or sold with the product. Any mounting of the unit should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
8. Power Sources - This unit should be operated only from the type of power source indicated on the marking label.
9. Grounding or Polarization – The power supply supplied with this unit may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

   Alternately, this unit may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
10. Power-Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
11. Overloading - Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.
12. Object and Liquid Entry - Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.
13. Servicing - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
14. Damage Requiring Service - Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:

    a. When the power-supply cord or plug is damaged.
    b. If liquid has been spilled, or objects have fallen into the unit.
    c. If the unit has been exposed to rain or water.

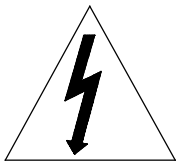
d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
e. If the unit has been dropped or the enclosure has been damaged.
f. When the unit exhibits a distinct change in performance - this indicates a need for service.

15. Replacement Parts - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

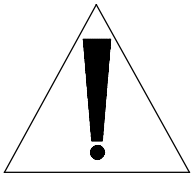
16. Safety Check - Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

17. Lightning - For added protection of this unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power-line surges.

SAFETY PRECAUTIONS

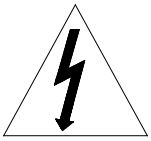


CAUTION
RISK OF ELECTRIC SHOCK, DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT OPEN COVERS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This label may appear on the bottom of the unit due to space limitations.



The lightning flash with an arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

220-240 Vac, 50 Hz power cords, input and output, must comply with the latest versions of IEC Publication 227 or IEC Publication 245.

WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

HANDLING ELECTROSTATIC-SENSITIVE DEVICES

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE
DEVICES

WARNING

ELECTROSTATIC SENSITIVE DEVICE. USE PROPER CMOS/MOSFET HANDLING PRECAUTIONS TO AVOID ELECTROSTATIC DISCHARGE.

NOTE: Grounded wrist straps must be worn and proper ESD safety precautions observed when handling the electrostatic-sensitive printed circuit boards.

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SUPPLEMENTAL DATA
FOR
JPD-100PLO

The JPD100PLO Joystick Controller is a JPD100P controller with a special lockout feature. The JPD100PLO requires firmware, part number 518007-4980.

The lockout feature allows an operator to enter a lockout code and leave the controller inoperable until the code is entered again to unlock the controller. Use the following procedure to lock and unlock the controller.

Press **OPT**
Press **2** (CNTL)
Press **3** (LOCKOUT)

The JPD100PLC display prompts you to enter a code. This code can be any 4-digit code.

LOCKOUT FEATURE ENTER CODE-

Enter the **4-digit code** using the numeric keypad on the controller then press **ENT**.

The JPD100PLC display prompts you to re-enter the code to verify it.

LOCKOUT FEATURE RE-ENTER CODE-

Re-enter the **same 4-digit code** and press **ENT**. If you enter the same code, the JPD100PLO displays the following message.

CONTROLLER LOCKED ENTER CODE-

The controller is inoperable until an operator enters the 4-digit code that was entered to lock the controller.

To unlock the controller, enter the **4-digit code entered to lock the controller** and press **ENT**. The message, “CONTROLLER UNLOCKED” flashes on the display and the JPD100PLO returns to normal operation.

NOTE: If the JPD100PLO is powered down while in the locked mode, the unit will be in the locked mode upon power-up.

RECOVERING FOR A LOST CODE

Perform the following procedure to recover from a lost code.

1) Power down the JPD100PLO.
2) Set the jumpers on the controller board for address 8. See paragraph 3.6 of this manual for setting addresses.
3) Power up the JPD100PLO.

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SECTION 1. INTRODUCTION

1.1 GENERAL

The JPD-100/P Controller is used to control FastScan/SmartScan receiver units, a CCU-100/B Central Control Unit, CCU-200 Communications Control Unit and CAT Video Switcher or an MSI-100 Medium System Interface Unit. The JPD-100/P Controller is designed to control the many different features of all the Diamond pan and tilt units available. The JPD-100/P Controller may have a feature that is not supported by your model pan and tilt unit. Refer to your specific pan and tilt unit's operation and programming manual for the available features.

The JPD-100/P Controller is designed for use in systems requiring four to thirty-two control locations. There are three system configurations for the JPD-100/P Controllers.

1) MUX-100 Multiplexer (up to eight JPD-100/P Controllers), CCU-100/B Central Control Unit and FastScan/SmartScan units with firmware supporting the 19.2K baud rate for proper system operation.
2) MSI-100 Medium System Interface (up to four JPD-100/P Controllers) and standard FastScan/SmartScan units.
3) CCU-200 Communications Control Unit (up to 8 JPD-100/P Controllers can be connected to one channel of the CCU-200; maximum of 4 channels for a total of 32 controllers)

1.2 DESCRIPTION

Each JPD-100/P consists of one 3-axis proportional joystick for pan, tilt, and zoom control, one 2-axis joystick for iris and focus control, two 12-key keypads for data entry and system control, eight programmable function keys, an LCD display, and a KBD-100A keyboard (AT-style) interface. The language for the LCD display is selectable between English, Spanish, German, and French.

1.3 INSTALLATION/SET-UP

1.3.1 MUX-100 Multiplexer AND CCU-100B Central Control Unit

Each JPD-100/P Controller must be connected to a DIA-01 Control Interface Adapter. The DIA-01 provides the +5Vdc power required to power the JPD-100/P circuitry. The DIA-01 also provides the communications interface between the MUX-100 Multiplexer and the JPD-100/P Controllers. Up to eight JPD-100/P Controllers can be connected to the MUX-100 Multiplexer by daisy-chain wiring the DIA-01 Control Interface Adapters.

Each JPD-100/P must have a unique address (1-8). The address is set using jumpers on the circuit board inside the unit. Refer to Section 3, paragraph 3.6 for the jumper settings.

A KBD-100A Keyboard can be connected to the JPD-100/P Controller for programming and storing PreShots, VectorScans, and Sector ID's in SmartScan Units. However, the KBD-100 keyboard is usually connected to the CCU-100/B Central Control Unit. With this setup, the CCU-100/B and the SmartScan Units can be programmed without moving the keyboard.

1.3.2 MSI-100 Medium System Interface Unit

One of the JPD-100/P Controllers can be connected to the front panel controller connector on the MSI-100. Three other JPD-100/P Controllers can be connected to DIA-01 Control Interface Adapters. The DIA-01 provides +5Vdc to power the JPD-100/P circuitry. The DIA-01 also provides the communications interface between the MSI-100 and the JPD-100/P Controllers. Up to three JPD-100/P Controllers can be connected to the rear

panel of the MSI-100 by daisy-chain wiring the DIA-01 Control Interface Adapters.

Each JPD-100/P must have a unique address (1-4). The address is set using jumpers on the circuit board inside the unit. Refer to Section 3, paragraph 3.6 for the jumper settings.

The KBD-100 Keyboard is connected to any of the JPD-100/P Controllers in the system for programming and storing PreShots, VectorScans, and Sector ID's in SmartScan Units and programming the MSI-100 Medium System Interface Unit.

1.3.3 CCU-200 Communications Control Unit

One JPD-200/P Controller can be plugged directly into the front panel of the CCU-200 using the coiled cable supplied with the controller. Up to thirty-one (31) additional JPD-200/P Controllers can be connected to DIA-01 Control Interface Adapters, then connected to the rear panel of the CCU-200. Up to eight Control Interface Adapters can be daisy-chain wired and connected to one RS-485 port on the CCU-200 rear panel. Each JPD-100P connected to the rear panel requires a DIA-01 control interface adapter. The DIA-01 provides +5Vdc to power the JPD-100/P circuitry. The DIA-01 also provides the communications interface between the CCU-200 and the JPD-100/P Controllers. Up to 32 JPD-100/P Controllers can be connected to the CCU-200.

Each JPD-100/P must have a unique address (1-8). The address is set using jumpers on the circuit board inside the unit. Refer to Section 3, paragraph 3.6 for the jumper settings.

The KBD-100A Keyboard is connected to any of the JPD-100/P Controllers in the system for programming and storing PreShots, VectorScans, and Sector ID's in SmartScan Units. A JPD-100P must be connected to the front panel on the CCU-200 to program the CCU-200 Communications Control Unit.

1.4 DEFINITIONS OF TERMS

The following terms are used throughout this manual. Please become familiar with them before programming the SmartScan units, CCU-100/B Central Control Unit or MSI-100 Medium System Interface Unit. Refer to the specific Operation and Programming Manual for programming procedures for the SmartScan units, the CCU-100/B Central Control Unit, and MSI-100 Medium System Interface Unit.

PreShot

A standard PreShot is a camera/lens position including pan, tilt, zoom, and focus that can be given a 16-character title and stored in a SmartScan, SmartScan Pro, or SmartScan Pro II, or given a 24-character title and stored in a SmartScan III Unit. Up to 100 (00-99) PreShots can be programmed and stored in each SmartScan unit. Standard PreShots can be programmed using a KBD-100 Programming Keyboard and the JPD-100/P Controller.

A “Quick” PreShot is a camera/lens position including pan, tilt, zoom, and focus that is stored in the scan, but the PreShot name is not programmable. The controller assigns the PreShot title. The title of the PreShot is the number of the PreShot; for example, the title for “Quick” PreShot 5, PreShot 05. “Quick” PreShots can be programmed using only the JPD-100/P Controller.

An operator can send a SmartScan unit to a programmed PreShot using the JPD-100/P Controller or the KBD-100 Keyboard. When the SmartScan unit is viewing the PreShot, the title of the PreShot is added to the video signal.

VectorScan

A VectorScan can be considered a video tour. It is two or more PreShots (up to 64) from the same scan unit linked together with specified dwell times. Up to ten (0-9) VectorScans can be stored in each SmartScan, SmartScan Pro, SmartScan Pro II, and SmartScan III unit. The VectorScan title can be up to 16 characters in the SmartScan, SmartScan Pro, and SmartScan Pro II units and up to 24 characters in SmartScan III units. VectorScans are programmed using the KBD-100 Keyboard and the JPD-100/P Controller. They can be started/stopped using the JPD-100/P Controller or KBD-100 Keyboard. When a VectorScan is running in a SmartScan unit, the title of the PreShot currently being viewed is added to the SmartScan video signal.

Sector ID

Sector ID's are used for labeling specific areas that the scan unit views. Up to 16 Sector IDs can be programmed and stored in each SmartScan unit. The Sector ID title can be up to 16 characters in SmartScan, SmartScan Pro, and SmartScan Pro II units, and up to 24 characters in SmartScan III units. Sector ID's are programmed using a KBD-100 Programming Keyboard and the JPD-100/P Controller. Whenever the dome is under manual control and viewing a programmed sector, the title of the sector is added to the SmartScan video signal.

MultiCall

A MultiCall can be programmed to perform one or more system functions at the same time or in series with programmable dwell times between each function. The system functions that can be included in a MultiCall are PreShots, VectorScans, video switching, turning on/off VCR's or other auxiliary devices, or starting a MultiCall (including itself). MultiCalls are used to define the system's response to events such as date/time, alarms and JPD-100/P Controller function

keys. A MultiCall can also be used to sequence cameras on a monitor. Up to 256 (00-255) MultiCalls can be programmed and stored with a 16-character title in the CCU-100/B Central Control Unit. Up to 251 (0-250) MultiCalls can be programmed and stored with a 16-character title in the MSI-100 Medium System Interface Unit.

1.5 OPERATION

The JPD-100/P Controller is polled by the MSI-100, CCU-200, or MUX-100 for key commands. An operator at each JPD-100/P Controller can perform the following system functions:

- Manual control (pan, tilt, zoom, focus, and iris) of FastScan or SmartScan domes. Lens iris manual control requires MIO-100 auto iris override option in standard FastScan or SmartScan. The FastScan Pro II, SmartScan Pro II, SmartScan III Series, UltraDome KD6, and KD6 Z-Series Dome units provide auto/manual iris as a standard feature.
- Video switching: 250 cameras to 32 monitors
- Program “Quick” PreShots in SmartScan domes
- Execute PreShots
- Program VectorScans (1-3) in the KD6 Z-Series Dome
- Start/stop VectorScans
- List programmed PreShots, VectorScans, VectorScan contents, and Sector IDs stored in SmartScan units (not available in KD6 Z-Series Dome)
- Control auxiliary devices
- Set the address of the KD6 Z-Series Dome
- Program Tours and Run Tours in the KD6 UltraDome
- Freeze and unfreeze the video scene in the KD6 UltraDome

These controllers allow the operators to have a primary control camera and monitor (1st line of display) and a secondary control camera and monitor (2nd line of display). If a secondary camera/monitor is not selected, all control and programming procedures are sent to the primary camera. If a secondary

camera/monitor is selected, all manual control (pan, tilt, zoom, focus, and iris), auxiliary control, and programming procedures are sent to the primary control camera and viewed on the primary control monitor. All automatic control (PreShots, VectorScans) is sent to the secondary control camera. If the secondary control camera is switched to the secondary control monitor, the video from the secondary camera is viewed on the secondary control monitor.

Each JPD-100/P can be used to enable, disable, or acknowledge alarms. Up to 255 alarms are available with AIU-100 Alarm Interface Units connected to the CCU-100/B. Up to 32 alarms are available with the MSI-100 Medium System Interface Unit. Individual alarms or all alarms can be enabled or disabled. The oldest alarm or all alarms can be acknowledged.

Each JPD-100/P has eight programmable function (quick) keys. The function keys are programmed by programming the desired MultiCall for each key, then assigning the MultiCalls to the function keys. The function keys are designed to perform a single system action or many system actions using a single key stroke. The actions can be initiated simultaneously or in a series with dwell times (up to 99 seconds) between each action. The actions that can be programmed for a function key are PreShots, VectorScans, Video Switching, and Auxiliary Control (VCR's), and MultiCalls. Pressing the function key once starts the assigned MultiCall. Pressing the function key again stops the assigned MultiCall.

1.6 SPECIFICATIONS

Power Requirements:	300ma Max.
Voltage Requirements:	+5Vdc ±5%
Communication:	RS-422 Twisted-Pair
Baud Rate:	19.2K Baud
Operating Temperature:	+32°F (0°C) to 120°F (+50°C)
Humidity:	0 to 95% relative, non-condensing

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SECTION 2. OPERATION

2.1 CONTROLS AND INDICATORS

2.1.1 Top Panel Controls and Indicators

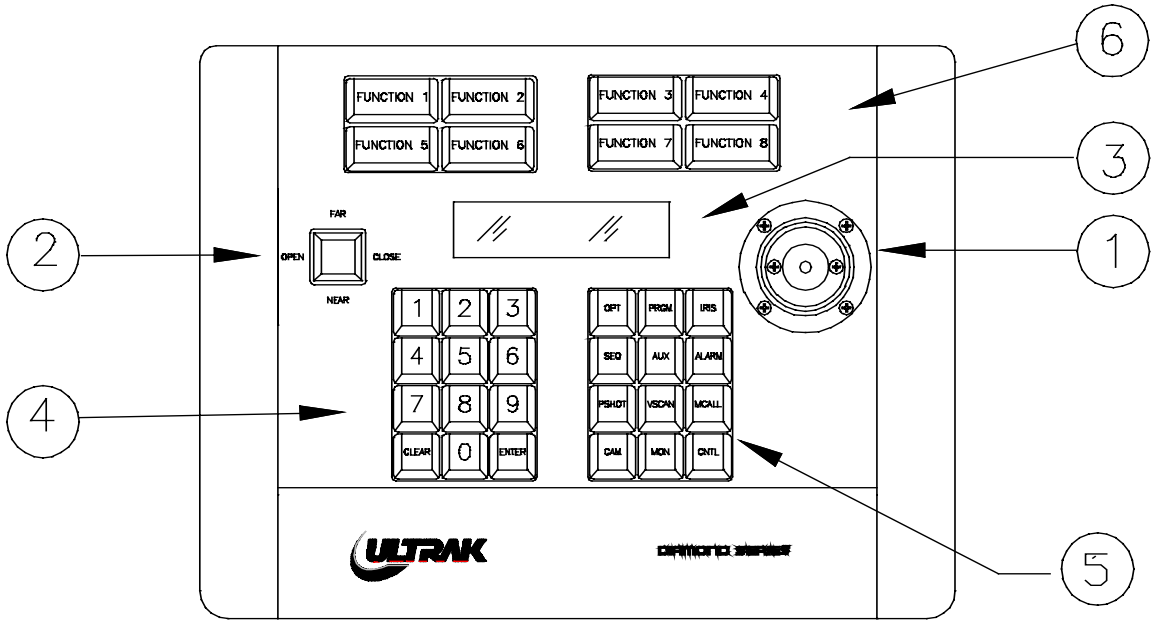
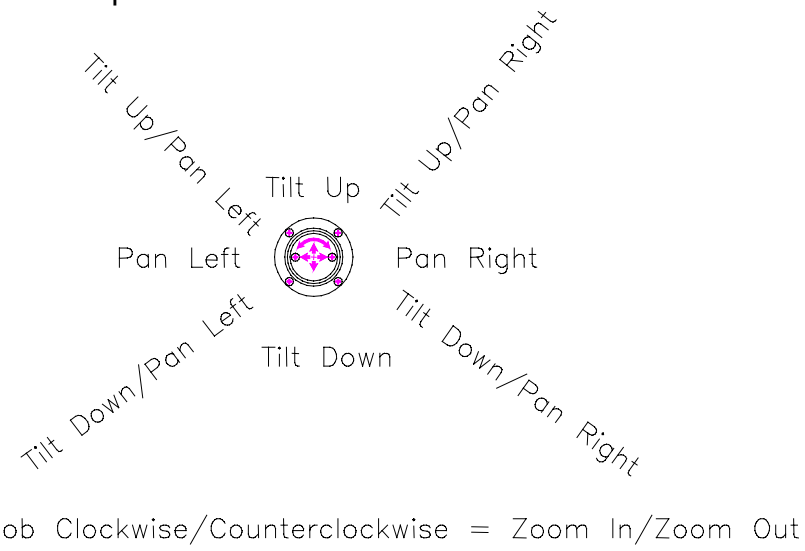


Figure 2-1. CONTROLS AND INDICATORS, TOP PANEL

LARGE JOYSTICK OPERATION

① LARGE JOYSTICK

The joystick control is rate proportional; the farther the joystick is moved, the faster the function is performed.



The large joystick is also used to halt VectorScans in a SmartScan unit and return the SmartScan to manual control. The SmartScan unit where the VectorScan is running must be the primary control camera. Move the joystick in any direction while a VectorScan is running to stop the VectorScan.

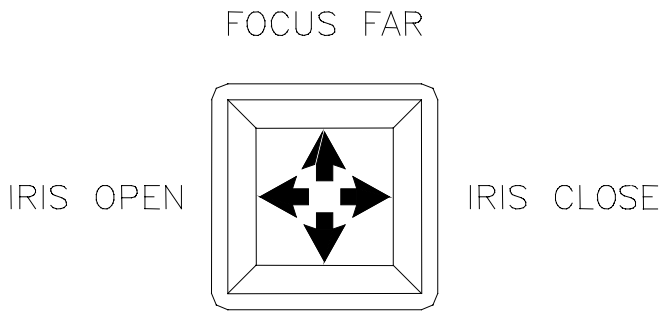
Auto Pivot Function

If the auto pivot function is enabled in the SmartScan unit, the pan and tilt rotates 180° when the camera reaches vertical. This function assists operators in tracking an individual that moves directly under the camera. When the camera is in the vertical position, push the large joystick down and hold it down until the pan and tilt rotates 180°; continue holding the joystick down and the unit tilts up as long as the joystick remains in the “down” position. When the joystick is returned to its neutral position, operation returns to normal. Refer to your specific pan and tilt unit’s user’s manual for availability of this feature.

PASS Function

If the PASS function is enabled in the SmartScan unit, the pan and tilt speed range is a function of the lens zoom angle. As the lens is zoomed in, the maximum pan and tilt speeds are reduced and the low speed control is expanded. Refer to your specific pan and tilt unit's user's manual for availability of this feature.

(2) SMALL JOYSTICK



Note: Manual Iris Control Must Be Selected for Iris Function To Be Operational

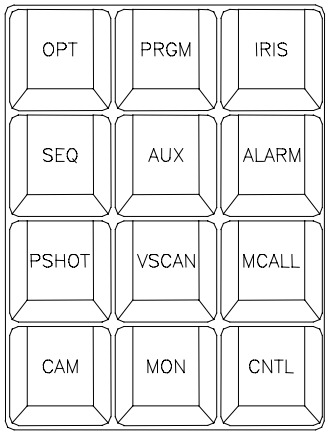
The focus functions are operational upon power-up of the unit. The iris function is set to automatic upon power-up of the unit. To manually control the iris, the MIO-100 Option must be installed on the FastScan or SmartScan unit and manual iris must be selected on the JPD-100/P Controller.

SMALL JOYSTICK OPERATION

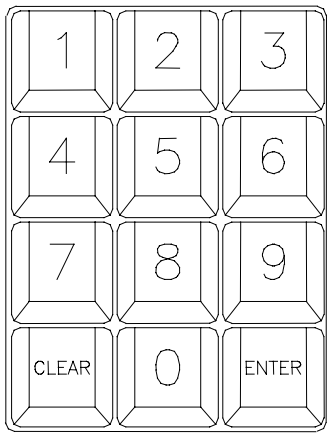
MANUAL IRIS CONTROL

STEP 1

Press the **IRIS** key on the function keypad and then the **2** key on the numeric keypad.



PRESS IRIS



PRESS 2

When manual iris is selected for the control camera, the letter I appears on the second line of the LCD display.

```
CNTL - CAM  1     MON  1
I
```

NOTE

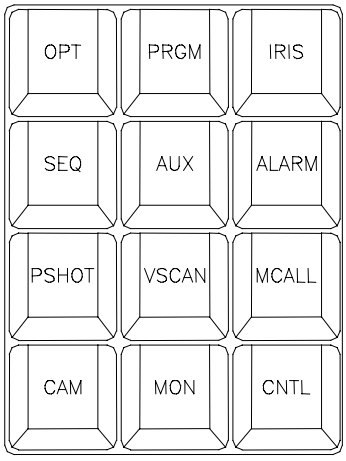
When the operator changes the control camera, the iris function stays in manual.

AUTOMATIC IRIS

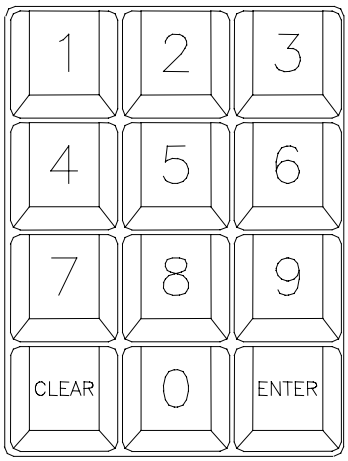
The operator can change back to automatic iris anytime while controlling the camera.

STEP 1

Press the **IRIS** key on the function keypad and then the **1** key on the numeric keypad.



PRESS IRIS



PRESS 1

When automatic iris is selected, the letter I disappears from the second line of the LCD display.

```
CNTL - CAM  1 MON  1
```

③ LCD DISPLAY

The display is a 2X20 EL back light super twist LCD. The viewing angle of the display may be changed by turning the screwdriver adjustment on the back panel (see figure 2-2). The first line of the display indicates the primary monitor (number) and camera (number) the hand controller unit is controlling. The second line indicates the secondary camera (number) and monitor (number), if one is selected. The language (English, Spanish, German, or French) for the LCD display is selectable.

The second line of the display shows each keystroke as it is entered. Any input errors may be corrected by pressing the CLEAR key and re-entering the data. All messages and prompts are also displayed on the second line. The display blinks at various data entry points to indicate more data needs to be entered or a key pressed to complete a command. The JPD-100/P returns to the secondary camera/monitor when done displaying messages or prompts.

④ NUMERIC KEYPAD

The numeric keypad is used to enter camera numbers, monitor numbers, PreShot numbers, VectorScan numbers, alarm numbers, etc. The CLEAR key is used to clear data entries or the second camera and monitor. The ENTER key is used to complete a data or function entry.

⑤ FUNCTION KEYPAD

The function keypad is used in conjunction with the numeric keypad to carry out the control functions of the FastScan/SmartScan assemblies, CATS Video Switcher, CCU-100/B Central Control Unit or MSI-100 Medium System Interface, and auxiliary devices.

- Camera/Monitor Switching (up to 250 cameras to 32 monitors) - CAM, MON, ENTER, CNTL
- Manual/Auto Iris Control (if option is installed in FastScan/SmartScan receiver unit) - IRIS
- Auxiliary Output Control: ON/OFF (if used with CATS® video switcher, AIF-100/CO, CRX-800 Series Control Receivers, CRX-500 Control Receivers) - AUX
- Alarm Control: Enable/Disable/Acknowledge Alarms (MSI-100 Medium System Interface, or if AIU-100 Alarm Interface Units or AIF-100 Auxiliary Alarm Interface units are connected to a CCU-100/B) - ALARM
- Program “Quick” PreShot – PRGM
- PreShot Call-up - PSHOT
- PreShot Listing - OPT
- Program VectorScans 1-3 in the KD6 Z-Series Dome (OPT)
- Run VectorScan - VSCAN
- VectorScan Listing - OPT
- Sector Listing - OPT
- Control (Start/Stop/Hold) MultiCalls - MCALL
- JPD-100/P Diagnostics - OPT
- SmartScan Functions (find home, manual control) - OPT
- Enable/Disable Camera ID Display, Coordinate Display or Error Log Display – OPT
- Select LCD Display Language (OPT)
- Set address in KD6 Z-Series Dome (OPT)
- Program and Run Tours in KD6 UltraDome (OPT)
- Freeze and Unfreeze video in the KD6 UltraDome (OPT)
- Flashback Function in the KD6 UltraDome (OPT)

The SEQ key is not functional on the JPD-100/P Controllers. Monitor sequencing must be done using the MultiCall function in the CCU-100/B Central Control Unit, MSI-100 Medium System Interface Unit, or CCU-200 Communications Control Unit. Refer to the CCU-100/B, MSI-100, or CCU-200 User's Manual for programming procedures.

6 FUNCTION KEYS

Function Keys 1 through 8

Function keys 1 through 8 are programmed by programming a MultiCall, then assigning the MultiCall to the function key. The function keys are designed to perform a single system action or many system actions using a single key stroke. The actions can be initiated simultaneously or in a series with dwell times (up to 99 seconds) between each action. The actions that can be programmed for a function key are PreShots, VectorScans, video switching, auxiliary control (video recording), and MultiCalls. Pressing the function key once starts the assigned MultiCall. Pressing the function key again stops the assigned MultiCall. If the key is not programmed, nothing happens when the key is pressed. Refer to the CCU-100/B or MSI-100 User's Manual for programming MultiCalls and assigning MultiCalls to function keys.

NOTE

If a VectorScan is started when a function key is pressed, the VectorScan continues to run until manual control of the camera is taken. Pressing the function key again does not halt a VectorScan.

Function keys 5, 6, and 7 can also be set to run tours 1,2, and 3, respectively. Function key 4 can be set to invoke the flashback function in the KD6. Function key 8 can be set to enable and disable the freeze frame feature in the KD6 UltraDome. Refer to paragraphs 2.2.10 and 2.2.11.

2.1.2 Rear Panel Controls and Indicators

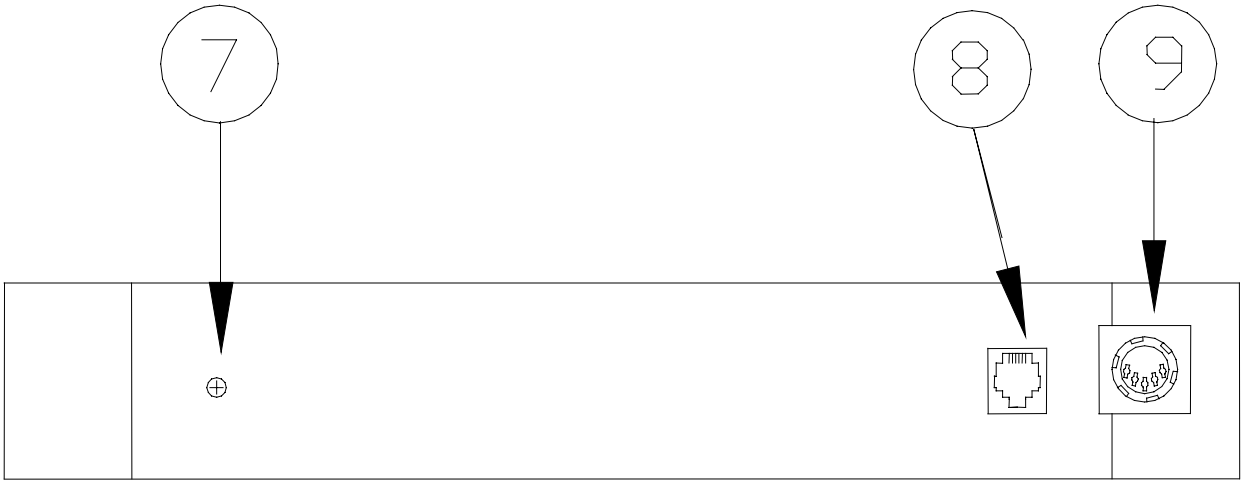


Figure 2-2. Controls and Indicators, Rear Panel

(7) VIEWING ANGLE ADJUSTMENT

This screwdriver adjustment is used to change the viewing angle of the LCD Display.

(8) 8-PIN TELEPHONE JACK CONNECTOR

This connector inputs power for the JPD-100/P Joystick Controller and outputs RS-422 control data. A coiled cable assembly (P/N 849518-0306) is provided with the unit for connection to the various equipment types.

KEYBOARD CONNECTOR

(9) 5-PIN DIN CONNECTOR

This connector is used for connection to the KBD-100 keyboard interface. The KBD-100 Keyboard is used to program PreShots, VectorScans, and Sector ID's in SmartScan units.

NOTE

In a system with a CCU-100B, the KBD-100 keyboard should be plugged into the front panel connector on the CCU-100/B Central Control Unit. From the CCU-100/B, the keyboard can be used to program both the CCU-100/B and the SmartScan units. The CCU-100/B functions, such as MultiCalls, cannot be programmed when the KBD-100 is plugged into the keyboard connector on the JPD-100/P.

2.2 OPERATION

CAUTION

Before Powering-Up The System, Make Sure The Programming Keyboard Is Plugged Into The JPD-100/P Controller or the CCU-100/B Central Control Unit (if applicable). If The Keyboard Is Plugged In After Power-Up, Improper Operation May Occur.

Operation can begin when power is applied to all components in the system. Upon power-up, the following screens are displayed.

Diamond Electronics JPD-100/P	3 seconds
Diamond Electronics 518007-2980 Rev D	3 seconds
Diamond Electronics JPD. Address = #	3 seconds
CNTL – CAM - 1 MON – 1 OPT>1 >1 to Change Lang	3 seconds

To change the language, see paragraph 2.2.1.

CNTL – CAM - 1 MON – 1

Camera one is the control camera and monitor one is the control monitor. All operator control data (pan, tilt, zoom, focus, iris, PreShots, VectorScans, etc.) is sent to camera one. To control another camera, see paragraph 2.2.2.

A secondary control camera/monitor has to be selected by an operator. A video switcher is usually installed in a system with more than one camera and/or monitor. If a secondary control camera is selected, all manual control data (pan, tilt, zoom, focus, and iris), camera power control and auxiliary control are sent to the primary control camera and all automatic control data (PreShot, VectorScan) is sent to the secondary control camera.

NOTE

If power is interrupted to the system, unplug the JPD-100/P Controller for 5 seconds and then plug it back in. If this procedure is not done, incorrect operation may occur.

2.2.1 LCD Display Language Selection

Upon power-up of the controller, the second line of the LCD display shows:

CNTL – CAM 1 MON 1
OPT>1 >1 to Change Lang

The language for the LCD display is selectable between English, French, German, and Spanish.

To select the language used for the LCD display,

Press **OPT** to view the LCD menu options	OPT
Press **1** (MISC)	1
Press **1** (LANG)	1
Press **1** for **English,**	1
Press **2** for **Spanish**,	2
Press **3** for **German**, or	3
Press **4** for **French**.	4

The LCD menus, messages, and prompts are displayed in the language selected.

2.2.2 Setting the Address in the KD6 Z-Series Dome

To set the address of a KD6 Z-Series Dome, you must know the serial number. The serial number is eight (8) digits and can be located on the KD6 Z-Series Dome pan and tilt unit. Note: all other dome addresses are set using rotary switches or a DIP switch on the receiver board.

Press **OPT** to view the LCD menu options	**OPT**
Press **1** (MISC)	**1**
Press **2** (SET ADD) to set the address	**2**
Enter the **Serial Number** (8 digits) of the KD6 Z-Series Dome (SN-). Enter the leading character A of the serial number as a 0.	**SN#**
Press **Enter**.	**Enter**
Enter the desired **address** of the dome (**1-250**)	**###**
Press **Enter**	**Enter**

The LCD displays the message, “Updating Address”.

The address is the camera number the operator uses to call-up and control the dome.

2.2.3 Primary Control Camera and Control Monitor.

Upon power-up of the system, the primary control camera and monitor are camera one and monitor one. A secondary control camera/monitor combination, if desired, has to be selected.

The first line of the display on the JPD-100/P shows the CAM and the MON the JPD-100/P is controlling. On the JPD-100/P controller, the camera number has a symbol that looks like a camera beside it and the monitor number has a symbol that looks like a monitor beside it.

CNTL - CAM 1 MON 1

Use the following command sequences to change the primary camera/monitor combination currently under control of the JPD-100/P Joystick Controller.

CHANGE PRIMARY CONTROL CAMERA

To change the control camera (but not the control monitor), enter the following command sequence.

NOTE

The commands are in bold typeface and are separated by the symbol >.

PRIMARY CONTROL CAMERA

Camera #>ENTER	**#**	**ENTER**
or		
Camera#>CNTL	**#**	**CNTL**

The JPD-100/P sends a command to the switcher to switch the selected camera to the monitor currently displayed on the JPD-100/P Controller.

NOTE

If the CCU-100/B or MSI-100 has been programmed (camera controller partitioning) to deny the controller access to a camera; when the operator selects that camera, the message "Request Denied" appears on the second line of the JPD-100/P display.

```
CNTL - CAM  1       MON  1
Request Denied
```

NOTE

If a camera number is displayed on the first line of the JPD display, but the operator cannot manually control that camera, press the CNTL key to get manual control (if the controller has access capability). The controller loses manual control when more than one JPD-100/P is addressed to the same camera or when a MultiCall calls the camera addressed by the JPD-100/P.

Example:

The display on the JPD-100/P controller shows CAM 1 and MON 1.

CNTL - CAM 1 MON 1

Enter the following command sequence to change the control camera to 5.

5>ENTER
or
5>CNTL

Now, the JPD-100/P display shows CAM 5/MON1.

CNTL - CAM 5 MON 1

All control commands are performed on camera 5 and the video from camera 5 is viewed on monitor 1.

PRIMARY CONTROL MONITOR

CHANGE PRIMARY CONTROL MONITOR

There are two different ways to select a control monitor.

1. The following command sequences change the control monitor and leave the primary control camera displayed on the first line of the JPD-100. The video from the primary control camera is **switched** to the new monitor.

   To change the control monitor (but not the control camera), enter one of the following command sequences.

   a. **Monitor #>MON>ENTER** | # | MON | ENTER |

NOTE

If the MSI-100 has been programmed (monitor controller partitioning) to deny the controller access to a monitor; when the operator selects that monitor, the message "Request Denied" appears on the second line of the JPD-100/P display.

Example:

The display on the JPD-100/P shows CAM 1/MON 1.

CNTL - CAM 1 MON 1

Enter the following command sequence to change the control monitor to 3.

3>MON>ENTER

Now the JPD-100/P display shows CAM 1/MON 3.

CNTL - CAM 1 MON 3

All control commands are performed on camera 1 and the video from camera 1 is viewed on monitor 3.

2. The following command sequences change the primary control monitor and also changes the primary control camera on the JPD-100/P Controller to the camera currently displayed on the monitor. No video switching occurs, only control changes.

   a. **Monitor #>MON>CNTL** | # | MON | CNTL |

   Example:

   The display on the JPD-100/P shows CAM 1/MON 1.

CNTL - CAM 1 MON 1

   Enter the following command sequence to change the control monitor to 3 and change the control camera to the camera presently displayed on monitor 3. For the example, camera 2 is currently displayed on (switched to) monitor 3.

   3>MON>CNTL

Now the JPD-100/P display shows CAM 2/MON 3.

CNTL - CAM 2 MON 3

All control commands are performed on camera 2 and the video from camera 2 is viewed on monitor 3.

2.2.4 Secondary Control Camera And Monitor.

The secondary camera and monitor are displayed on the second line of the display. The camera number can be entered first and the monitor number second or vice versa.

If the monitor number is entered first, it appears on the second line. When the camera number is entered, the JPD-100/P places the camera number in front of the monitor number.

NOTE

If the CCU-100/B or MSI-100 has been programmed (camera controller partitioning) to deny the controller access to a camera; when the operator selects that camera, the message "Request Denied" appears on the second line of the JPD-100/P display.

If the MSI-100 has been programmed (monitor controller partitioning) to deny the controller access to a monitor; when the operator selects that monitor, the message "Request Denied" appears on the second line of the JPD-100/P display.

SELECT A SECONDARY CAMERA

SECONDARY CONTROL CAMERA

To select a secondary camera, enter the following command sequence.

Camera #>CAM [#] [CAM]

The camera number selected appears on the second line of the controller's LCD display. All automatic commands (PreShot, VectorScan) are sent to the secondary camera.

Example:

Select camera 2 as the secondary camera.

2>CAM

The number 2 shows up on the second line of the JPD-100/P display.

```
CNTL - CAM  1   MON 1
2
```

All automatic commands (PreShots, VectorScans) are sent to camera 2.

SELECT A SECONDARY MONITOR

To select a secondary monitor, enter the following command sequence.

Monitor #>MON | # | MON

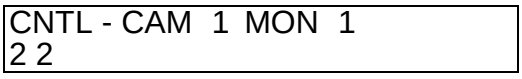
The secondary monitor appears on the second line of the JPD-100/P display.

Example:

Select monitor 2 as the secondary monitor.

2>MON

Monitor 2 appears on the second line of the JPD-100/P display.



SECONDARY CAMERA/MONITOR

CALL UP SECONDARY CAMERA TO SECONDARY MONITOR

To switch the video of the secondary camera to the secondary monitor, the secondary camera and monitor must be selected first and displayed on the second line of the JPD-100/P LCD display. Press the **ENTER** key on the JPD-100/P. The JPD-100/P sends out a command to the switcher to switch the secondary camera to the secondary monitor.

The following message is briefly displayed after pressing ENTER.

```
CNTL - CAM  1          MON  1
Call CAM# MON#
```

CLEAR SECONDARY CAMERA/MONITOR

Press the **CLEAR** key on the numeric keypad until the second line is clear.

2.2.5 Switch Secondary Control To Primary Control.

To have the secondary camera/monitor combination displayed become the primary camera/monitor combination, press **CNTL**. The camera/monitor combination on the second line of the LCD display moves to the first line of the display. The second line of the display is empty.

Example:

CAM 1/MON 1 is the primary control camera/monitor combination and CAM 2/MON 2 is the secondary camera/monitor combination.

```
CNTL - CAM  1          MON  1
2   2
```

Press CNTL.

CAM 2 and MON 2 become the primary control camera/monitor combination and the second line disappears.

```
CNTL - CAM  2          MON  2
```

2.2.6 Call Up Any Camera To Any Monitor.

To call up any camera to any monitor without giving up PreShot and VectorScan control of the primary camera, perform the procedures for calling up a secondary camera to a secondary monitor. Then clear them from the display on the JPD-100/P by pressing the CLEAR key until the second line of the display is empty. The video from the secondary camera remains on the secondary monitor until the switcher receives a switching command involving either the camera or monitor.

#	CAM	#	MON	ENTER	CLEAR	CLEAR

Example:

Call up Camera 2 to Monitor 2.

Present LCD Display:

```
CNTL - CAM  1          MON  1
```

2>CAM

```
CNTL - CAM  1          MON  1
2
```

2>MON

```
CNTL - CAM  1          MON  1
2  2
```

ENTER

The JPD-100/P sends out a command to switch camera 2 to monitor 2.

CLEAR

```
CNTL - CAM  1          MON  1
2
```

CLEAR

```
CNTL - CAM  1          MON  1
```

Camera 2 remains on monitor 2 until the operator calls up another camera to monitor 2.

2.2.7 PreShots

Each SmartScan unit can store up to 100 PreShots (00-99). A list of the programmed PreShots for each SmartScan unit can be called up using the JPD-100/P Controller for display on a monitor. The operator can program and store PreShots in the primary control camera, or send the control camera (or secondary camera, if selected) to any of its programmed PreShots using the JPD-100/P Controller.

2.2.7.1 Program PreShots

A PreShot is a predefined SmartScan position (including the pan, tilt, zoom, and focus settings). A PreShot is saved with a number and title. The operator uses the PreShot number to send the SmartScan unit to the PreShot. The title of the PreShot is added to the video signal as the SmartScan unit goes to the PreShot location.

There are two methods for programming PreShots

NOTE

When programming PreShots through an MSI-100, you must log on the MSI with a valid password

1. “Quick” PreShots can be programmed using the JPD-100/P Controller.

A PreShot programmed using the JPD-100/P Controller is given a number by the operator and the JPD-100/P Controller automatically assigns the title of the PreShot. The title is “PreShot n”; n is the number given the PreShot.

Example:

The operator programs PreShot 5. The title given the PreShot is “PreShot 05”.

2. Standard PreShots can be programmed using the KBD-100 keyboard and the JPD-100/P Controller.

   A PreShot programmed using the KBD-100 Keyboard and JPD-100 Controller is given a number and a specific title by the operator. See the specific SmartScan, SmartScan Pro, SmartScan Pro II, or SmartScan III Operation and Programming Manual for programming PreShots using the KBD-100 keyboard.

Perform the following steps to program and store PreShots for the primary control camera using the JPD-100/P Controller.

1. Adjust the pan, tilt, zoom, and focus of the SmartScan unit using the joysticks on the JPD-100/P Controller until the desired scene is displayed on the monitor.

2. Press **PRGM**.

```
..PROGRAM PRESHOT….
ENTER SHOT NO.-__
```

3. Enter the PreShot number, **0-99**, on the JPD-100/P keypad.

4. Press **Enter**.

The PreShot is stored in the SmartScan unit.

2.2.7.2 List Programmed PreShots

The list displays the PreShot numbers and their titles. The listing cannot be edited. Perform the following command sequence to view the list of PreShots for the primary (or secondary, if selected) control camera. **Follow the prompts on the JPD-100/P Controller display**.

Press OPT	OPT
Press 5 on the numeric keypad (listings)	5
Press 1 on the numeric keypad (PreShots)	1

The JPD-100/P sends out a command to call up the list of the programmed PreShots for the primary (or secondary, if selected) control camera. The list displays the PreShot numbers and their titles.

Press 1 to view the next page of the list. | 1 |

Press 2 when done viewing the list. | 2 |

2.7.2.3 Go To PreShot

A PreShot call is sent to the control camera unless a secondary control camera is selected, then it is sent to the secondary camera. To view the PreShot scene, the camera must be called up on a monitor.
There are two command sequences to go to a PreShot.

Enter the **PreShot #** and Press **PSHOT** | # | PSHOT |

The JPD-100/P sends out a command for camera one to go to the specified PreShot. The PreShot scene can be viewed on the monitor the SmartScan unit is called up on. The title of the PreShot appears on the top of the monitor. If the PreShot does not exist, the SmartScan outputs the message 'DOES NOT EXIST' on the video signal.

Example:

The JPD-100/P display shows:

```
CNTL - CAM  1     MON  1
```

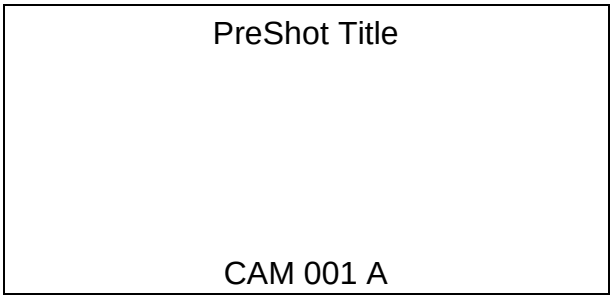
(no secondary camera/monitor selected)

PRESHOTS

Send camera one to PreShot 2. Enter one of the two following command sequences.

2>PSHOT

SmartScan unit one goes to PreShot position 2. The video from PreShot 2 and the title of PreShot 2 are viewed on monitor 1. If the camera ID is enabled in the SmartScan unit, the camera number appears on the bottom of the monitor with the letter A beside it for automatic operation.



2.2.8 VectorScans.

Each SmartScan unit can store up to 10 VectorScans (0-9). A list of the programmed VectorScans for each SmartScan unit can be called up for display on a monitor using the JPD-100/P Controller. The contents of each VectorScan can be called up for display on a monitor using the JPD-100/P Controller. The operator can start any of the programmed VectorScans on the control camera (or secondary camera, if selected) using the JPD-100/P Controller.

2.2.8.1 Programming VectorScans in the KD6 Z-Series Dome.

Three VectorScans can be stored in the KD6 Z-Series Dome. Each VectorScan can be programmed with up to 16 PreShots with a dwell time (0-30 seconds) between each PreShot. Perform the following procedure to program and store a VectorScan in a KD6 Z-Series Dome.

Press the OPT key.	**OPT**
Press 4 (PROG)	**4**
Press 2 (VectorScan)	**2**
Enter the VectorScan # (1-3)	**VS#**
Press Enter	**Enter**
Enter the 1st PreShot # (1-64)	**PS#**

Press Enter	**Enter**
Enter a dwell time (0-30 seconds)	**0-30**
Press Enter	**Enter**
Enter the next PreShot # (1-64)	**PS#**
Press Enter	**Enter**
Enter a dwell time (0-30 seconds)	**0-30**
Press Enter	**Enter**
Continue entering PreShot numbers and dwell times (up to 16)	• •
Press Clear when done programming	**Clear**

2.2.8.2 List VectorScans

The list displays the VectorScan numbers and their titles. The listing cannot be edited. Perform the following command sequence to view the list of VectorScans for the primary (or secondary, if selected) control camera.

Perform the following command sequences to view the programmed VectorScans. **Follow the prompts on the JPD-100/P Controller LCD Display.**

Press **OPT**	OPT
Press **5** on the numeric keypad (Listings)	5
Press **3** on the numeric keypad (VectorScan)	3

The JPD-100/P sends out a command to call-up the list of the programmed VectorScans for the primary (or secondary, if selected) control camera. The list displays the VectorScan numbers and their titles.

Press 1 to view the next page of the list.

Press 2 when done viewing the list.

2.2.8.3 List VectorScan Contents

The contents of each programmed VectorScan for each SmartScan unit can be called up using the JPD-100/P Controller for display on a monitor.

Perform the following command sequence to view the contents of a programmed VectorScan. **Follow the prompts on the JPD-100/P Controller display.**

VECTORSCANS

Press **OPT**	OPT
Press **5** (on the numeric keypad)	5
Press **4** (VectorScan Contents)	4
Enter **VectorScan #**	#
Press **ENTER**	ENTER

The JPD-100/P sends out a command to call-up the contents of the VectorScan number entered for the primary (or secondary, if selected) control camera. The list displays the PreShots with the programmed transit times and dwell times in the order they are viewed by the SmartScan unit. The VectorScan contents cannot be edited from this listing.

Press **1** to move up one line in the list.
Press **2** to move down one line in the list.
Press **3** to exit the list.

2.2.8.4 Run VectorScan

There are two command sequences that can be used to start a programmed VectorScan on a SmartScan unit. Enter one of the

following command sequences at the JPD-100/P Controller. The commands are in bold typeface.

Enter **VectorScan #** | #

Press **VSCAN.** | VSCAN

Example:

The JPD-100/P display shows:

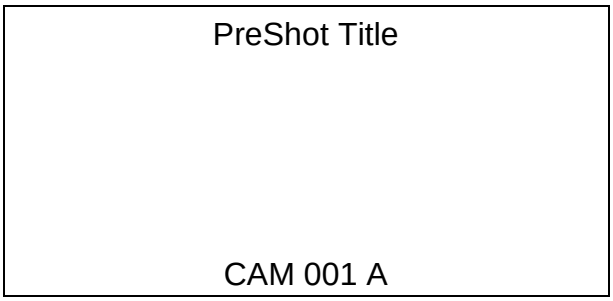
CNTL - CAM 1 MON 1

(no secondary camera/monitor selected)

Start VectorScan 1 on Camera 1. Enter one of the two following command sequences.

1>VSCAN

SmartScan unit one moves to the first PreShot listed in the VectorScan and remains there for the specified dwell time. The title of the PreShot is displayed on top of the monitor. If the Camera ID is enabled for the SmartScan Unit, the Camera Number appears on the bottom of the monitor with the letter A beside it for Automatic Operation.



MONITOR DISPLAY

The SmartScan unit goes to the next PreShot in the list and remains there for the specified dwell time. The title of that PreShot is displayed on the monitor. The SmartScan unit continues to go to the next PreShot and outputs the PreShot title until it reaches the end of the listing; then it starts over again with the first PreShot in the listing.

2.2.8.5 Stop VectorScan

The VectorScan continues to run until stopped by an operator. To stop a VectorScan, the SmartScan unit running the VectorScan must be the control camera displayed on the JPD-100/P Controller. Move the large joystick in any direction. The VectorScan stops and the operator has manual control of the SmartScan unit. If the camera ID display is enabled on the SmartScan unit, the letter M is displayed on the monitor next to the camera number when the unit is under manual control.

2.2.9 Sector ID's.

Sector ID titles are output on the video signal of the SmartScan camera when an operator is manually controlling a SmartScan and the SmartScan is positioned in a programmed Sector ID. A listing of the programmed Sector ID's can be called-up for the primary (or secondary, if selected) control camera for display on a monitor.

The list displays the Sector numbers and their titles. The listing cannot be edited. Perform the following command sequence to view the list of Sector ID's for the primary (or secondary, if selected) control camera. **Follow the prompts on the JPD-100/P Controller LCD display.**

Press **OPT**	OPT
Press **5** on the numeric keypad (Listings)	5
Press **2** (Sector ID's)	2

The JPD-100/P sends out a command to call-up the list of the programmed Sector ID's for the primary (or secondary, if selected) control camera.

Press 1 to view the next page of the listing.

Press 2 when done viewing the list.

2.2.10 Freeze/Unfreeze Video & Flashback Function (KD6 UltraDome only)

To activate function key 8 to freeze and unfreeze the camera video scene and function key 4 to invoke the flashback function, perform the following procedure.

Press **OPT** — **OPT**

Press **1** (MISC) — **1**

Press **3** (FCT ON or FCT OFF) — **3**

This command activates (FCT ON) or deactivates (FCT OFF) Function keys 4 and 8. When function key 8 is activated it can be used to toggle between freezing and unfreezing the video on the control camera. When function key 4 is activated, pressing the key invokes the flashback function in the KD6 dome. When the flashback function is invoked, the KD6 goes to the last position prior to an automatic command (PreShot, VectorScan, or Tour). Refer to the KD6 operation and programming manual for a full description of these features.

When function keys 4 and 8 are activated for the flashback and freeze frame features, the user programming (assigned MultiCall) for the key is disabled. When the function keys are deactivated, the user programming (MultiCall) for the key is enabled.

2.2.11 Tours (KD6 UltraDome only)

The user can program three (3) PTZ tours. Each tour is a maximum of two minutes (120 seconds). When a PTZ tour is run, the scan performs the pan, tilt, and zoom commands that were performed during the PTZ tour programming mode.

2.2.11.1 Programming Tours

Perform the following procedure to program a tour using the JPD-100 controller.

Press **OPT**	**OPT**
Press **4** (PROG)	**4**
Press **1** (TOUR)	**1**
Enter the Tour # (**1-3**)	**#**
Press **Enter**	**Enter**
Press **1** (START)	**1**

Perform the desired pan, tilt, and zoom commands. The maximum programming time is two minutes (120 seconds). To end programming before the unit times out, press **3** (END).

2.2.11.2 Run Tour

To start a programmed tour using the JPD-100 controller, perform the following procedure.

Press OPT	**OPT**
Press 1 (MISC)	**1**
Press 4 (TOUR ON)	**4**

TOUR ON activates function keys 5, 6, and 7 to run tours 1, 2, and 3, respectively. Note: When function keys 5, 6, and 7 are activated to run tours, the user programming for the function key is disabled. When the function keys are deactivated, the user programming for the function key is enabled. Refer to Section 3 of this manual for programming function keys.

Press the function key for the corresponding tour. A tour runs until stopped by a manual control command (pan, tilt, zoom, focus, iris) or another automatic command (PreShot, VectorScan, or Tour).

To deactivate the function keys, press OPT > 1> 4 (TOUR OFF).

2.2.11.3 Stop Tour

To stop a tour, manually control the camera where the tour is running.

MULTICALL CONTROL

2.2.12 MultiCall Control (00-255).

The MultiCalls (00-255 stored in the CCU-100/B or 0-250 stored in the MSI-100) can be controlled using the JPD-100/P Joystick Controller. Refer to the CCU-100B or MSI-100 User's Manual, as applicable, for programming MultiCalls.

An operator can start a MultiCall, stop a MultiCall, put a MultiCall on hold, move a MultiCall forward or backward one step at a time, or continue a MultiCall from a held position.

NOTE

The same MultiCall can be started more than once. If this is done, multiple versions of the same MultiCall will be running simultaneously with different starting times. This can lead to erratic operation of the system.

START MULTICALL

1. MultiCall #>MCALL [#] [MCALL]

The following display appears on the JPD-100/P LCD display.

1>Start	3>Stop
4>Continue	6>Hold

Press **1** on the numeric keypad.

The following display appears on the JPD-100 LCD display.

```
CNTL - CAM 1        MON 1
START MULTICALL
```

The controller sends out a command to the CCU-100B or MSI-100 Unit to run the MultiCall number entered.

Halt All MultiCalls

To halt all MultiCalls running, perform the following command sequence on the JPD-100/P Controller.

Press **MCALL**

The following display appears on the JPD-100/P LCD display.

```
CNTL - CAM 1            MON 1
1>RUN MC. 3>HALT ALL
```

Press **3** to halt all MultiCalls

The following display appears on the JPD-100/P LCD display.

```
CNTL - CAM 1   MON 1
Stop all MultiCalls
```

MULTICALL CONTROL

The JPD-100/P sends out a command to the CCU-100/B or MSI-100 Unit to stop all MultiCalls currently running.

NOTE

If a MultiCall is halted while a VectorScan is running, the VectorScan continues to run until manual control is taken at the SmartScan unit where the VectorScan is running.

Stopping A Specific MultiCall

1. **Type the MultiCall Number from 0-255.**
2. **Press MCALL**.

The following display appears on the JPD-100/P LCD display.

1>Start	3>Stop
4>Continue	6>Hold

3. **Press 3** (Stop)**.**

The following message is displayed.

CNTL - CAM n	MON n
Stop MultiCall	

HOLDING A SPECIFIC MULTICALL

1. **Type the MultiCall Number from 0-255.**
2. **Press MCALL**.

   The following display appears on the JPD-100/P LCD display.

1>Start	3>Stop
4>Continue	6>Hold

3. **Press 6.**

   The following display appears on the JPD-100/P LCD display.

1>Forward	3<Back
4-Continue	6-Exit

   The following options are available:

   a. Press 6 to exit the menu and leave the MultiCall on hold.
   b. Press 1 to move forward one step in the MultiCall.
   c. Press 3 to move back one step in the MultiCall.
   d. Press 4 to continue the MultiCall from where it was held.

MULTICALL CONTROL

CONTROLLING A MULTICALL ON HOLD

Perform the following procedure to move forward one step in the MultiCall, move backward one step in the MultiCall, or continue running a MultiCall that has been placed on hold. You can move forward one step at a time until you reach the end of the MultiCall. You can move backward one step at a time until you reach the beginning of the MultiCall. If a MultiCall is a continuous MultiCall (it calls itself as the last step in the MultiCall), you can move forward from the last step to the first step or backward from the first step to the last step.

1. **Type the MultiCall Number.**
2. **Press MCALL**.

   The following display appears on the JPD-100/P LCD display.

1>Start	3>Stop
4>Continue	6>Hold

3. **Press 6** (Hold)**.**

   The following display appears on the JPD-100/P LCD display.

1>Forward	3<Back
4-Continue	6-Exit

   a. Press 6 to exit the menu and leave the MultiCall on hold.

b. Press 1 to move forward one step in the MultiCall. You can move forward one step at a time until you reach the end of the MultiCall in a noncontinuous MultiCall. You can move forward one step at a time continuously from the last step to the first step in a continuous MultiCall.

c. Press 3 to move back one step in the MultiCall. You can move backward one step at a time until you reach the end of the MultiCall in a noncontinous MultiCall. You can move backward one step at a time continuously from the last step to the first step in a continuous MultiCall.

d. Press 4 to continue the MultiCall from where it was held.

NOTE

If you have moved forward or backward in a MultiCall and then press 4 to continue the MultiCall; the MultiCall continues from the step it is on when you select continue.

The JPD-100/P sends out a command to the CCU-100/B Central Control Unit or MSI-100 Medium System Interface to run the MultiCall number entered.

AUXILIARY CONTROL

2.2.13 Auxiliary Contact Output Control (ON/OFF).

The JPD-100/P can send control data out to turn auxiliary devices on or off. The CATS Video Switcher, the CRX-800 Series Control Receivers, the CRX-500 Series Control Receivers, and the AIF-100/CO Contact Output Units have contact outputs for connection to VCR's, flood lights, etc. The CRX-800 Receivers and the AIF-100/CO units are addressable. The contacts are controlled by sending an ON message for a specific contact to the unit address or an OFF message for a specific contact to the unit address. If the contact output is configured as normally open, an ON message closes the contact and an OFF message opens the contact. If the contact output is configured as normally closed, an ON message opens the contact and an OFF message closes the contact.

To control a contact output, the primary control camera must be the address of the unit where the contact output is located. To control the contact outputs on the CATS Video Switcher or the MSI-100 Medium System Interface, the primary control camera must be camera 1. Note: Camera 1 cannot have a CRX-800 Receiver or an AIF-100/CO Contact Output Device if a CATS Video Switcher or MSI-100 Unit is installed in the system and the system requires control of the contact outputs.

ON COMMAND SEQUENCE

Auxiliary #>AUX>1

OFF COMMAND SEQUENCE

Auxiliary #>AUX>3

#	AUX	1

Example:

Your system contains a SmartScan camera viewing an entrance door and a VCR for recording scenes from that SmartScan camera. The video from the SmartScan camera is looped through a monitor output to the VCR. The VCR is connected to an AIF-100/CO for controlling the on/off recording functions of the VCR. The address of the AIF-100/CO is 2. The VCR is connected to contact output 1 on this AIF-100/CO.

When an operator views a scene on the SmartScan camera that he feels needs to be recorded, he turns the VCR on. When the scene no longer needs recorded, he turns the VCR off.

Perform the following procedures for turning the VCR on and off.

1) Call up the address of the AIF-100/CO as the control camera. The address is 2.

   2>CNTL

   The JPD-100/P display should read:

CNTL - CAM 2 MON 1

2) Turn Auxiliary 1 ON.

1>AUX>1

The JPD-100/P sends out an ON message to address 2, contact 1.

3) Turn the Auxiliary off.

1>AUX>3

The JPD-100/P sends out an OFF message to address 2, contact 1.

2.2.14 Alarm Control (Enable/Disable/Acknowledge)

The operator can enable, disable, or acknowledge individual alarms or all alarms.

ENABLE ALARMS

Perform the following command sequence to enable one alarm or all alarms (up to 255).

1. **Alarm #>ALARM** [#] [ALARM]

   The following options are displayed on the JPD-100/P Controller.

   ```
   CNTL - CAM  2     MON  1
   1>EN  2>DIS  3>ACK
   ```

2. Press **1**

   The following options are displayed on the JPD-100/P Controller.

   ```
   CNTL - CAM  1     MON  1
   1>EN-#  3>All
   ```

3. Press **1** to enable the alarm number entered **in the first step.**

   or

   Press **3 to enable ALL alarms**

DISABLE ALARMS

Perform the following command sequence to disable one alarm or all alarms (up to 255).

1. **Alarm #>ALARM** [#] [ALARM]

   The following options are displayed on the JPD-100/P Controller.

```
CNTL - CAM  2     MON  1
1>EN  2>DIS  3>ACK
```

2. Press **2**

   The following options are displayed on the JPD-100/P Controller.

```
CNTL - CAM  1     MON  1
1>DIS#  3>All
```

3. Press **1** to disable the alarm number entered **in the first step.**

   or

   Press **3 to disable ALL alarms**

ACKNOWLEDGE ALARMS

1. **Alarm #>ALARM** [#] [ALARM]

The following options are displayed on the JPD-100/P Controller.

1>ACK 1 STD	2> ALL STD
3>ACK1 VA	4> ALL VA

a. Press **1** to acknowledge **the oldest standard alarm** in the system. [**1**]
   The JPD displays: Ak old standard alm

b. Press **2** to acknowledge **ALL standard alarms** [**2**]
   The JPD displays: Ak all standard alms

c. Press **3** to acknowledge the **oldest video loss alarm** (this is for use with a special Maxpro series video switcher). [**3**]
   The JPD displays: Ak old l/v alarm

d. Press **4** to acknowledge **all video loss alarms** (this is for use with a special Maxpro series video switcher). [**4**]
   The JPD displays: Ak all l/v alarms

2.2.15 Manual Control of SmartScan.

There are two ways to return manual control of a SmartScan Unit to the JPD-100/P Controller during an automatic operation such as a VectorScan. **The SmartScan Unit must be the primary control camera on the JPD-100/P display.**

MOVE THE LARGE JOYSTICK IN ANY DIRECTION.

or

PRESS OPT TO VIEW THE MENU ON LCD DISPLAY OPT

PRESS 2 (CNTR) **2**

PRESS 1 (MAN CONTROL) 1

2.2.16 Find Home.

The Home position is a reference point used by the SmartScan unit to define a starting position for the pan, tilt, and zoom functions. The "Find Home" function should be performed upon power-up of the unit to orient the SmartScan unit to a reference point prior to programming or performing any PreShots, VectorScans, etc.

A SmartScan unit must be able to find its home position to program PreShots, VectorScans, and Sector ID's. The SmartScan unit cannot find home if the pan, tilt, or zoom feedback connections are not functioning.

If the "Find Home" function is not performed upon power-up and an operator tries to send the unit to a PreShot, the SmartScan Unit will find home first and then perform the PreShot. If the Find Home function has not been performed and the operator tries to program the unit; the SmartScan unit will find home before proceeding with the programming menus.

To send a SmartScan unit to its "Home" position, call it up on the JPD-100/P as the primary control camera.

Camera #>ENTER	#	ENTER
Press OPT to view the menu on LCD display		OPT
Press 2 (CNTR)		**2**
Press 2 (Home)		2

The JPD-100/P Controller sends out a command to send the SmartScan unit called up as the control camera to its "home" position.

2.2.17 Joystick Diagnostics.

A diagnostics menu can be called up on the JPD-100/P LCD display to verify the large joystick on the controller is operating correctly. There are three diagnostic selections: Offset, Actual, and Auto_Zero.

Perform the following command sequence to access the joystick diagnostics.

OPT>3> OPT 3

```
CNTL - CAM  1          MON  1
1>OFFSET 2>Actual 3>Auto_Zero
```

OffSet

1>

The following display appears on the JPD-100/P Controller.

```
CNTL - CAM  1          MON  1
P=nnn T=nnn Z=nnn
```

Offset shows the values the JPD-100/P is sending out when the joystick is moved.

P = Pan Setting
T = Tilt Setting
Z = Zoom Setting

Each setting has a range of 0 to 256. When the joystick is in the neutral position, these numbers should all be 128. The number for each function should vary as that function is moved from close to 0 to close to 255; but not change direction.

Actual

2>

```
CNTL - CAM  1          MON  1
P=nnn T=nnn Z=nnn
```

Actual shows the values of the pan, tilt, and zoom at the present joystick location. When the joystick is in the neutral position, these numbers should be close to 128. The number for each function should vary as that function is moved from close to 0 to close to 255; but not change direction.

Auto Zero

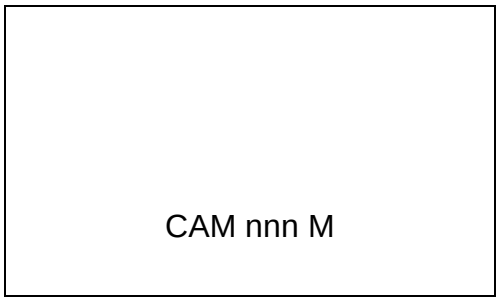
3>

The Auto_Zero sends out data to electronically center the pan, tilt, and zoom positions of the SmartScan unit (control camera on JPD-100/P) at the present location. This function should be executed with the joystick in its neutral position. This function is executed automatically on power-up.

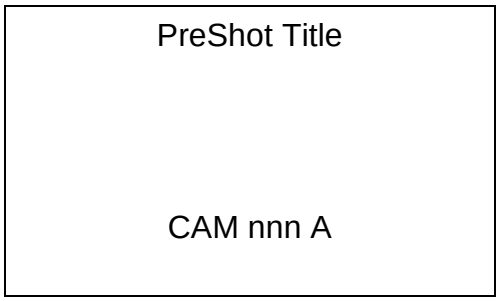
CAMERA ID DISPLAY

2.2.18 Camera ID Display on Monitor.

The SmartScan units are factory set to send out the camera number on the video signal. The SmartScan unit also sends out whether the SmartScan unit is under manual control or automatic control (PreShot or VectorScan). When the SmartScan unit is called up on a monitor, the displays are located on the bottom of the monitor.



Manual Control



Automatic Control

This display can be enabled (On) or disabled (Off). **To enable or disable the display for a SmartScan unit, it must be the control camera on the JPD-100/P Controller**. Enter the following command sequence to control the camera display.

Turn Camera Display ON

OPT>6>1 OPT 6 1

Turn Camera Display OFF

OPT>6>2 OPT 6 2

AZIMUTH/ERROR LOG

2.2.19 Pan, Tilt Azimuth Display/Error Log Display.

A display showing the azimuth coordinates of the pan and tilt and an error log display for the primary control camera can be turned on for diagnostic purposes.

The same command sequence is used to display the azimuth coordinates of the pan and tilt and the error log display.

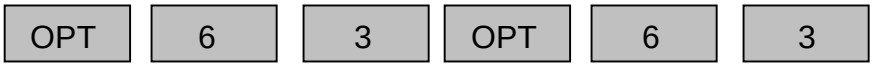
Azimuth Display ON

OPT>6>3

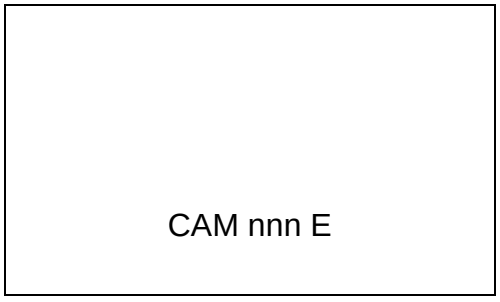
Error Log Display ON

Entering the above command sequence twice displays the error log display.

OPT>6>3>OPT>6>3



When the error log is displayed, an "E" appears on the camera number line of the display.



To return to the pan and tilt azimuth display, enter OPT>6>3 again. This command toggles between the two displays.

Azimuth Display and Error Log Display OFF

The following command sequence turns off both the pan and tilt azimuth display and the error log display.

OPT>6>4 | OPT | 6 | 4 |

Table 2-1. CONTROL COMMANDS

Command (Keystrokes are separated by >)	Description
OPT>1>1	Select LCD Display Language
OPT>1>2	Set address in KD6 Z-Series Dome
1. #>CNTL 2. #>ENTER	Select Primary Control Camera
#>MON>ENTER	Select Primary Control Monitor (switches primary control camera to selected monitor
#>MON>CNTL	Select Primary Control Monitor (changes control monitor and changes control camera to camera switched to monitor)
#>CAM	Select Secondary Control Camera
#>MON	Select Secondary Control Monitor
#>CAM>#>MON>ENTER	Switch secondary camera to secondary monitor
OPT>5>1	List PreShots
#>PSHOT	Go To PreShot
OPT>4>2>VectorScan #>Enter>PreShot #> Enter>Dwell Time> Enter> PreShot #>Enter> Dwell Time>Enter•••PreShot#>Enter>Dwell Time>Enter>Clear	Program VectorScans (1-3) in KD6 Z-Series Dome (up to 16 PreShots)
OPT>5>3	List VectorScans
OPT>5>4>VectorScan #	List VectorScan Contents
#>VSCAN	Run VectorScan Continuously
Move large joystick in any direction	**Stop VectorScan or Tour**
OPT>4>1>Tour #>Enter>1	Program Tour
OPT>1>4	Activate or deactivate function keys 5,6, and 7 to run tours 1, 2, and 3, respectively
OPT>1>3	Freeze or Unfreeze video (activate or inactivate function key 8)
OPT>5>2	List Sector IDs
#>AUX>1	Turn Auxiliary Device On
#>AUX>3	Turn Auxiliary Device Off
1. OPT>2>1 2. Move large joystick in any direction	Manual Control
OPT>2>2	Find Home
OPT>3	Joystick Diagnostics 1>Offset 2>Actual 3>Auto Zero
OPT>6>1	Turn Camera Display ON
OPT>6>2	Turn Camera Display Off
OPT>6>3	Turn Azimuth Display On
OPT>6>3>OPT>6>3	Turn Error Log Display On
OPT>6>4	Turn Azimuth Display and Error Log Display Off

Command (Keystrokes are separated by >)	Description
#>MCALL	MultiCall 1>Start 3>Stop 4>Continue 6>Hold
#>ALARM>1	Alarms 1>Enable Alarms (Enable all or # entered) 2>Disable Alarms (Disable all or # entered) 3>Acknowledge (Acknowledge Oldest or All)

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SECTION 3. INSTALLATION AND INTERCONNECTIONS

3.1 GENERAL

This section describes the handling procedures, interconnecting cabling requirements, pin-out assignments, and the installation set-up procedures for the JPD-100/P Smart Hand Controller Unit.

3.2 HANDLING PROCEDURES

Each container shipped by Diamond Electronics is labeled with the customer order number, the Diamond Electronics order number, and the items contained therein. In addition, each container has a carton number and the total number of cartons shipped in any given lot. On receipt and during unpacking, each item must be compared to the shipping documents accompanying each shipment to ensure that all items have been received. Notification must be supplied to Diamond Electronics and the delivering carrier immediately if any discrepancies have occurred.

Most Diamond Electronics equipment is packaged with the protection of "foamed-in-place" polyurethane dunnage. This packing medium provides a reusable container for any subsequent reshipment. The polyurethane molds itself around each object to provide an upper and lower enclosure. Each container and its plastic-covered polyurethane enclosures should be stored for reuse in the event that reshipment of any item becomes necessary.

No item should be removed from its shipping container for any prolonged period of time until it is ready for permanent installation. All handling of equipment outside of its protective packaging must be performed with utmost care. Any installation of equipment not accomplished by Diamond Electronics personnel must be accomplished in strict accordance with these procedures so as not to void any warranty provisions.

3.3 INTERCONNECTING CABLING REQUIREMENTS

3.3.1 8-Pin Telephone Jack Connector.

A coiled cable assembly, part number 849518-0306, is provided with the JPD-100/P Smart Hand Controller Unit for connection to the DIA-01 Control Interface Adapter to input the power required for the JPD-100/P circuitry and to output RS-422 control data.

CAUTION

Do not use commercially available telephone-type cable to connect the JPD-100 to any interface equipment or improper operation will result. Use only the lower impedance cable supplied with the unit to make connections.

3.3.2 5-Pin DIN Keyboard Connector.

A cable is supplied with the KBD-100 Programming Keyboard. Use only this cable for connection to the 5-Pin DIN connector on the JPD-100/P Controller.

3.4 CONNECTOR PIN-OUT ASSIGNMENTS

a. 8-Pin Telephone Jack

Pin	Function
1	N/C
2	RX+
3	TX+
4	TX-
5	+5V IN
6	GND
7	RX-
8	N/C

b. 5-Pin DIN Connector

Pin	Function
1	Clock
2	Data
3	Reset
4	Ground
5	5 Volt

3.5 JDP-100/P EQUIPMENT INTERCONNECTIONS

Two-twisted pair shielded RS-422 cable is recommended for daisy-chain wiring the DIA-01 Control Interface Adapters and for connection from the MUX-100 Multiplexer or MSI-100 Medium System Interface to one of the DIA-01 Control Interface Adapters in the chain.

CAUTION

Before Powering-Up The System, Make Sure The Programming Keyboard Is Plugged Into The JPD-100/P Controller or CCU-100/B Central Control Unit (if applicable). If The Keyboard Is Plugged In After Power-Up, Improper Operation May Occur.

3.5.1 MUX-100 Multiplexer

Each JPD-100/P Controller must be connected to a DIA-01 Control Interface Adapter. Up to eight DIA-01 Control Interface Adapters can be daisy-chain wired and connected to the MUX-100 Multiplexer. Refer to Figure 3-1 for connecting the JPD-100/P Controllers to the MUX-100 Unit.

3.5.2 MSI-100 Medium System Interface Unit

One JPD-100/P Controller can be plugged directly into the front panel of the MSI-100 Medium System Interface Unit using the coiled cable supplied with the controller. Up to three additional JPD-100/P Controllers can be connected to DIA-01 Control Interface Adapters, then connected to the rear panel of the MSI-100. The units must be addressed 1-4. Refer to Figure 3-2 for connecting the JPD-100/P Controllers to an MSI-100 Unit.

3.5.3 CCU-200 Communications Control Unit

One JPD-200/P Controller can be plugged directly into the front panel of the CCU-200 using the coiled cable supplied with the controller. Up to thirty-one (31) additional JPD-200/P Controllers can be connected to DIA-01 Control Interface Adapters, then connected to the rear panel of the CCU-200. Up to eight Control Interface Adapters can be daisy-chain wired and connected to one RS-485 port on the CCU-200 rear panel. Refer to Figure 3-3 for connecting the JPD-200/P Controllers to the CCU-200 Unit.

3.5.4 Daisy-Chain Wiring DIA-01 Control Interface Adapters

The line that connects the MUX-100 between one and eight JPD-100/P Controllers may be up to 4000 feet long. The line that connects the MSI-100 between one and three JPD-100/P Controllers may be up to 4000 feet long. The line must not have any branches. The MUX-100 or MSI-100 can be located at any point along the line. The last DIA-01 in the line should be terminated with 120 ohms. Connect the MUX-100 or the MSI-100 to the DIA-01 Control Interface Adapters using 2-twisted pair (4 wires) shielded RS-422 cable.

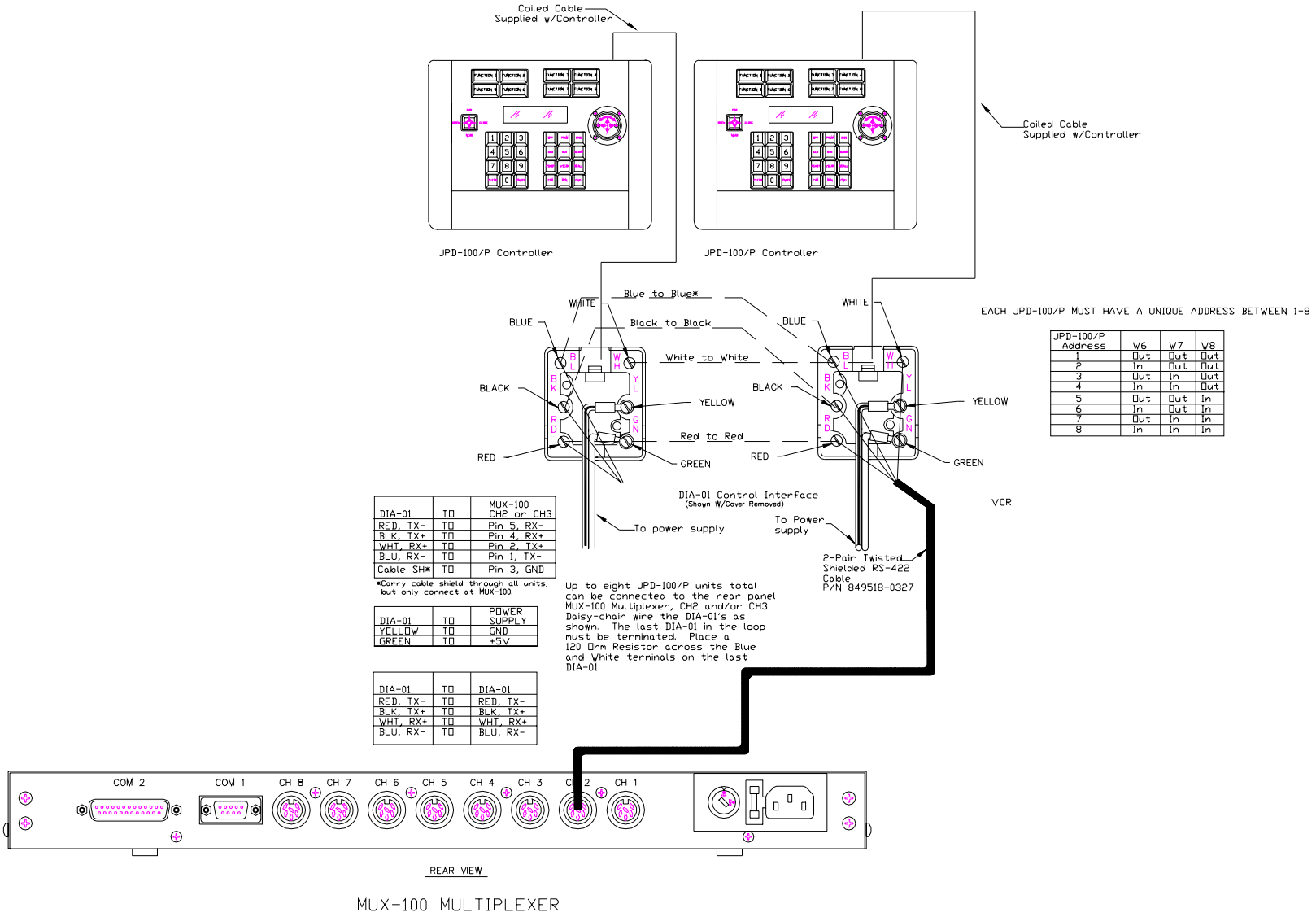
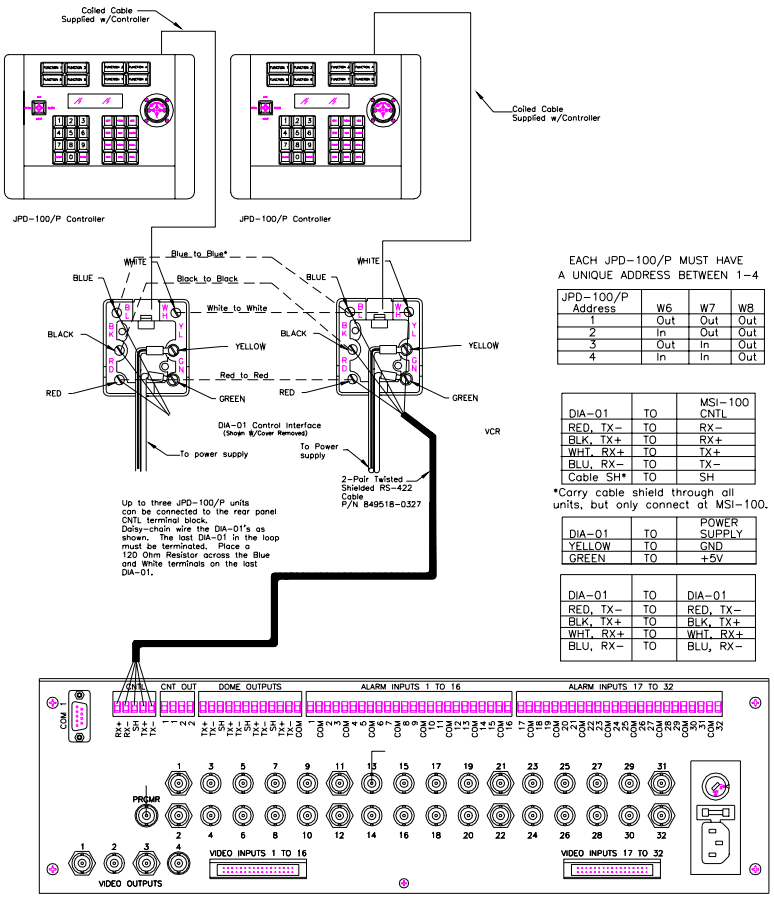

Coiled Cable
Supplied w/Controller
JPD-100/P Controller
JPD-100/P Controller
Coiled Cable
Supplied w/Controller
WHITE
BLUE
Blue to Blue*
Black to Black
White to White
BLACK
YELLOW
Red to Red
RED
GREEN
WHITE
BLUE
BLACK
YELLOW
RED
GREEN
EACH JPD-100/P MUST HAVE A UNIQUE ADDRESS BETWEEN 1-8
JPD-100/P Address | W6 | W7 | W8
1 | Out | Out | Out
2 | In | Out | Out
3 | Out | In | Out
4 | In | In | Out
5 | Out | Out | In
6 | In | Out | In
7 | Out | In | In
8 | In | In | In
DIA-01 Control Interface
(Shown W/Cover Removed)
To power supply
To Power supply
VCR
2-Pair Twisted Shielded RS-422 Cable
P/N 849518-0327
DIA-01 | TO | MUX-100 CH2 or CH3
RED, TX- | TO | Pin 5, RX-
BLK, TX+ | TO | Pin 4, RX+
WHT, RX+ | TO | Pin 2, TX+
BLU, RX- | TO | Pin 1, TX-
Cable SH* | TO | Pin 3, GND
*Carry cable shield through all units, but only connect at MUX-100.
DIA-01 | TO | POWER SUPPLY
YELLOW | TO | GND
GREEN | TO | +5V
DIA-01 | TO | DIA-01
RED, TX- | TO | RED, TX-
BLK, TX+ | TO | BLK, TX+
WHT, RX+ | TO | WHT, RX+
BLU, RX- | TO | BLU, RX-
Up to eight JPD-100/P units total can be connected to the rear panel MUX-100 Multiplexer, CH2 and/or CH3 Daisy-chain wire the DIA-01's as shown. The last DIA-01 in the loop must be terminated. Place a 120 Ohm Resistor across the Blue and White terminals on the last DIA-01.
COM 2
COM 1
CH 8
CH 7
CH 6
CH 5
CH 4
CH 3
CH 2
CH 1
REAR VIEW
MUX-100 MULTIPLEXER

Figure 3-1. JPD-100/P CONNECTIONS TO MUX-100 MULTIPLEXER


Coiled Cable Supplied w/Controller
JPD-100/P Controller
JPD-100/P Controller
Coiled Cable Supplied w/Controller
WHITE
BLUE
BLACK
YELLOW
RED
GREEN
Blue to Blue*
Black to Black
White to White
Red to Red
To power supply
To Power supply
DIA-01 Control Interface (Shown W/Cover Removed)
2-Pair Twisted Shielded RS-422 Cable P/N 849518-0327
VCR
Up to three JPD-100/P units can be connected to the rear panel CNTL terminal block. Daisy-chain wire the DIA-01's as shown. The last DIA-01 in the loop must be terminated. Place a 120 Ohm Resistor across the Blue and White terminals on the last DIA-01.
CNTL
CNT OUT
DOME OUTPUTS
ALARM INPUTS 1 TO 16
ALARM INPUTS 17 TO 32
COM 1
PRGMR
VIDEO OUTPUTS
VIDEO INPUTS 1 TO 16
VIDEO INPUTS 17 TO 32

EACH JPD-100/P MUST HAVE A UNIQUE ADDRESS BETWEEN 1-4

JPD-100/P Address	W6	W7	W8
1	Out	Out	Out
2	In	Out	Out
3	Out	In	Out
4	In	In	Out

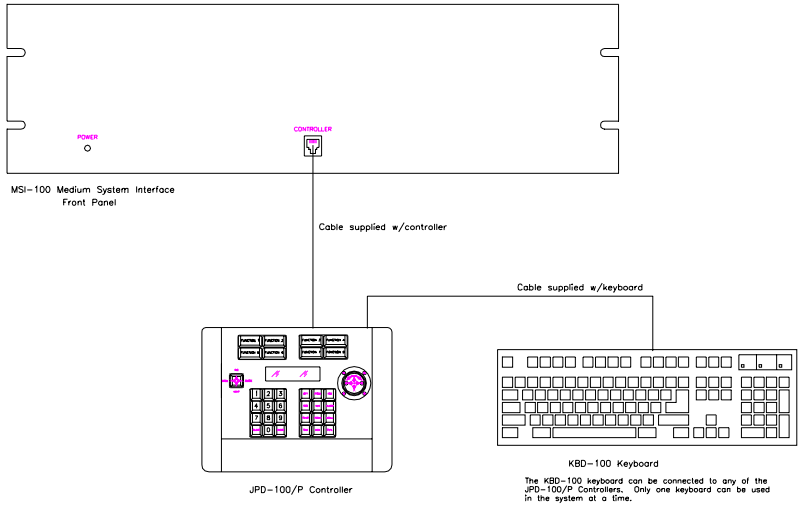
DIA-01	TO	MSI-100 CNTL
RED, TX-	TO	RX-
BLK, TX+	TO	RX+
WHT, RX+	TO	TX+
BLU, RX-	TO	TX-
Cable SH*	TO	SH

*Carry cable shield through all units, but only connect at MSI-100.

DIA-01	TO	POWER SUPPLY
YELLOW	TO	GND
GREEN	TO	+5V

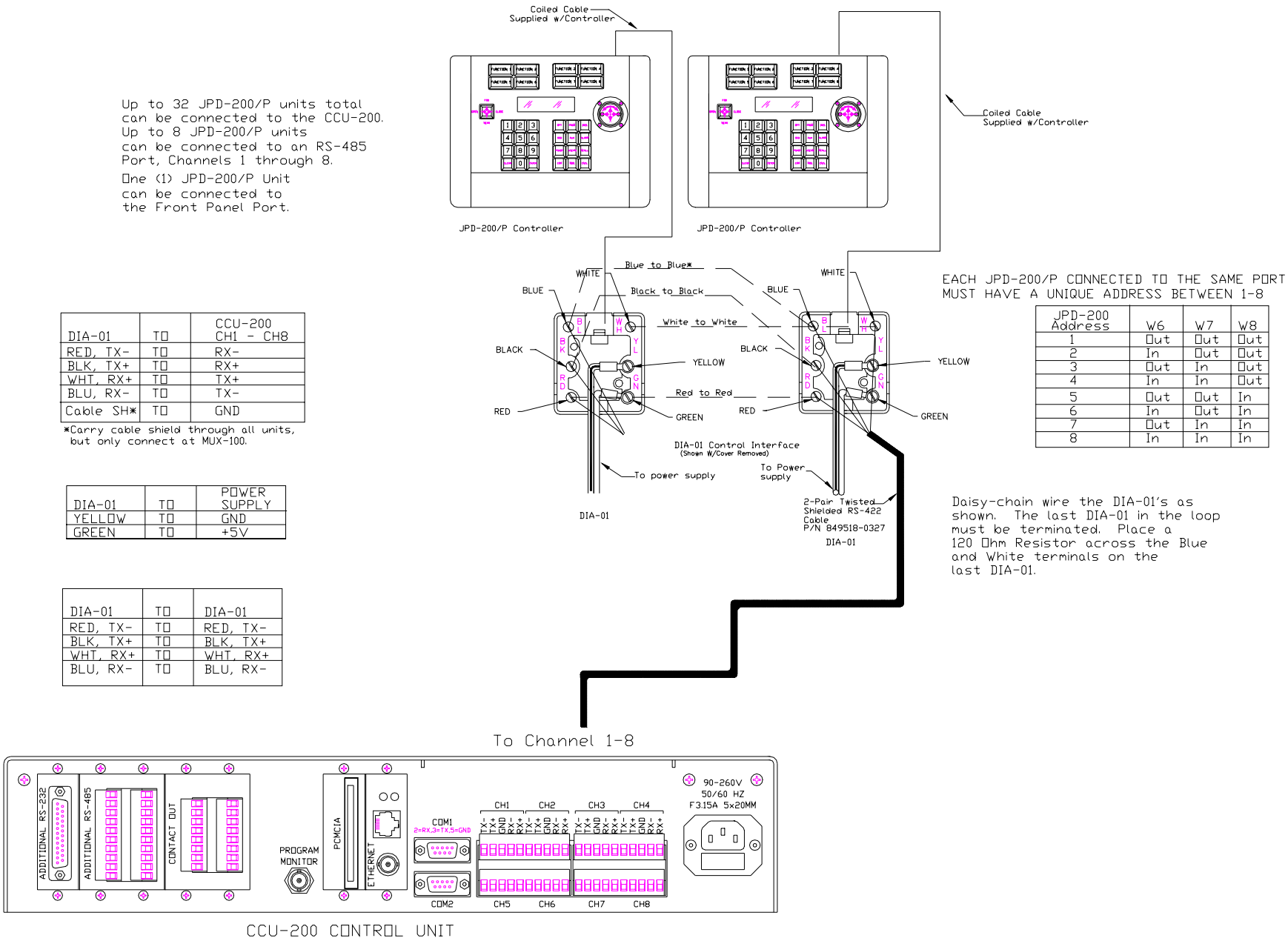
DIA-01	TO	DIA-01
RED, TX-	TO	RED, TX-
BLK, TX+	TO	BLK, TX+
WHT, RX+	TO	WHT, RX+
BLU, RX-	TO	BLU, RX-

MSI-100 REAR PANEL CONNECTIONS


POWER
CONTROLLER
MSI-100 Medium System Interface Front Panel
Cable supplied w/controller
Cable supplied w/keyboard
JPD-100/P Controller
KBD-100 Keyboard
The KBD-100 keyboard can be connected to any of the JPD-100/P Controllers. Only one keyboard can be used in the system at a time.

MSI-100 FRONT PANEL EQUIPMENT CONNECTIONS

Figure 3-2. JPD-100/P CONNECTIONS TO MSI-100 MEDIUM SYSTEM INTERFACE UNIT



DIA-01	TO	CCU-200 CH1 - CH8
RED, TX-	TO	RX-
BLK, TX+	TO	RX+
WHT, RX+	TO	TX+
BLU, RX-	TO	TX-
Cable SH*	TO	GND

*Carry cable shield through all units, but only connect at MUX-100.

DIA-01	TO	POWER SUPPLY
YELLOW	TO	GND
GREEN	TO	+5V

DIA-01	TO	DIA-01
RED, TX-	TO	RED, TX-
BLK, TX+	TO	BLK, TX+
WHT, RX+	TO	WHT, RX+
BLU, RX-	TO	BLU, RX-

JPD-200 Address	W6	W7	W8
1	Out	Out	Out
2	In	Out	Out
3	Out	In	Out
4	In	In	Out
5	Out	Out	In
6	In	Out	In
7	Out	In	In
8	In	In	In

Figure 3-3. JPD-100/P CONNECTIONS TO CCU-200 COMMUNICATION CONTROL UNIT (REAR PANEL)

MUX-100 CH 2 or 3	to	DIA-01
Pin 1, TX-	to	Blue, RX-
Pin 2, TX+	to	White, RX+
Pin 4, RX+	to	Black, TX+
Pin 5, RX-	to	Red, TX-
Pin 3, GND	to	Cable Shield*

MSI-100 CNTL	to	DIA-01
TX-	to	Blue, RX-
TX+	to	White, RX+
RX+	to	Black, TX+
RX-	to	Red, TX-
SH	to	Cable Shield*

CCU-200 CHs 1-8	to	DIA-01
TX-	to	Blue, RX-
TX+	to	White, RX+
RX+	to	Black, TX+
RX-	to	Red, TX-
GND	to	Cable Shield*

* Carry the cable shield through all units, but only connect at the MSI-100, CCU-200, or MUX-100.

Using daisy-chain wiring, wire the remaining DIA-01's.

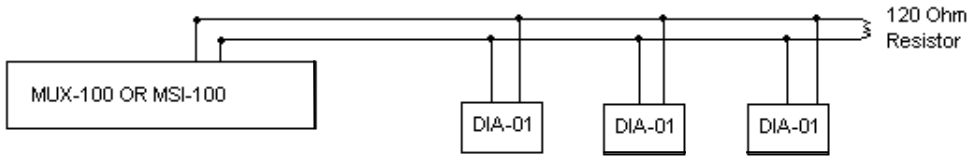
DIA-01	to	DIA-01
Blue, RX-	to	Blue, RX-
White, RX+	to	White, RX+
Black, TX+	to	Black, TX+
Red, TX-	to	Red, TX-

NOTE

The receive communications on the last DIA-01 Control Interface Adapter in the chain from each port (CH2 and CH3 of the MUX-100 or CNTL of the MSI) must be terminated. If the MUX-100 or MSI-100 is in the middle of the line, the DIA-01's at both ends should be terminated.

Terminate the receive communications on the DIA-01 by connecting a 120 ohm resistor across terminals blue, RX-, and white, RX+.

Terminate last DIA-01 in the chain when the MUX-100, MSI-100, or CCU-200 is at either end of the communication chain.



Terminate DIA-01s on both ends in the chain when the MUX-100, MSI-100, or CCU-200 is in the middle of the communication chain.

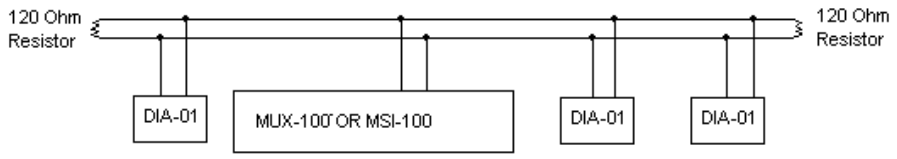


Figure 3-3. Terminating the DIA-01 Control Interface Adapter

3.6 JPD-100/P ADDRESSING

Each JPD-100/P must be given a unique address (1-8). The address is set by jumpers on the circuit board inside the JPD-100/P Controller.

WARNING

REMOVE POWER TO THE UNIT PRIOR TO REMOVING THE COVER. THERE IS HIGH VOLTAGE PRESENT ON THE CIRCUIT BOARD. REFER TO FIGURE 3-4 FOR LOCATION OF HIGH VOLTAGE.

To access the address jumpers, remove the bottom cover from the controller by removing the eight (8) screws on the bottom cover.

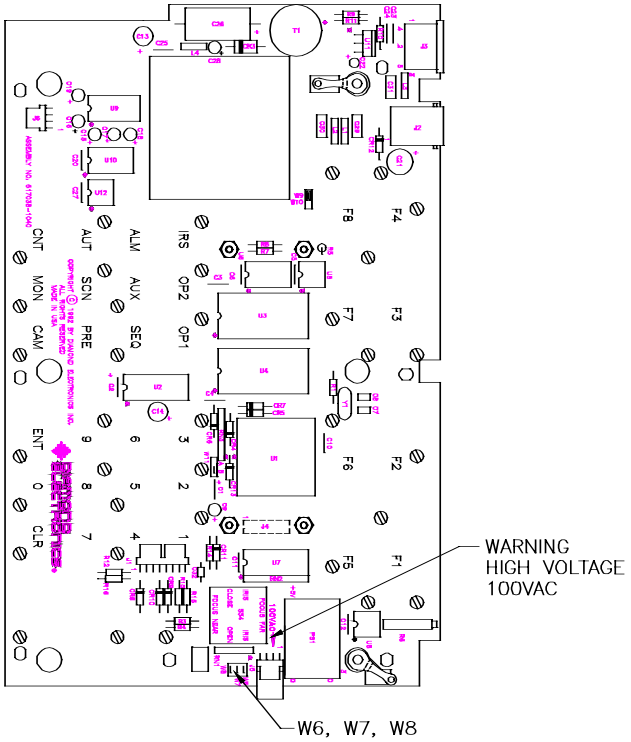


Figure 3-4. JUMPER SETTINGS

Refer to the following table for the jumper settings.

Table 3-1. JPD-100/P ADDRESSING

Controller Address	W6	W7	W8
1	OUT	OUT	OUT
2	IN	OUT	OUT
3	OUT	IN	OUT
4	IN	IN	OUT
5	OUT	OUT	IN
6	IN	OUT	IN
7	OUT	IN	IN
8	IN	IN	IN

3.7 INSTALLATION DRAWINGS

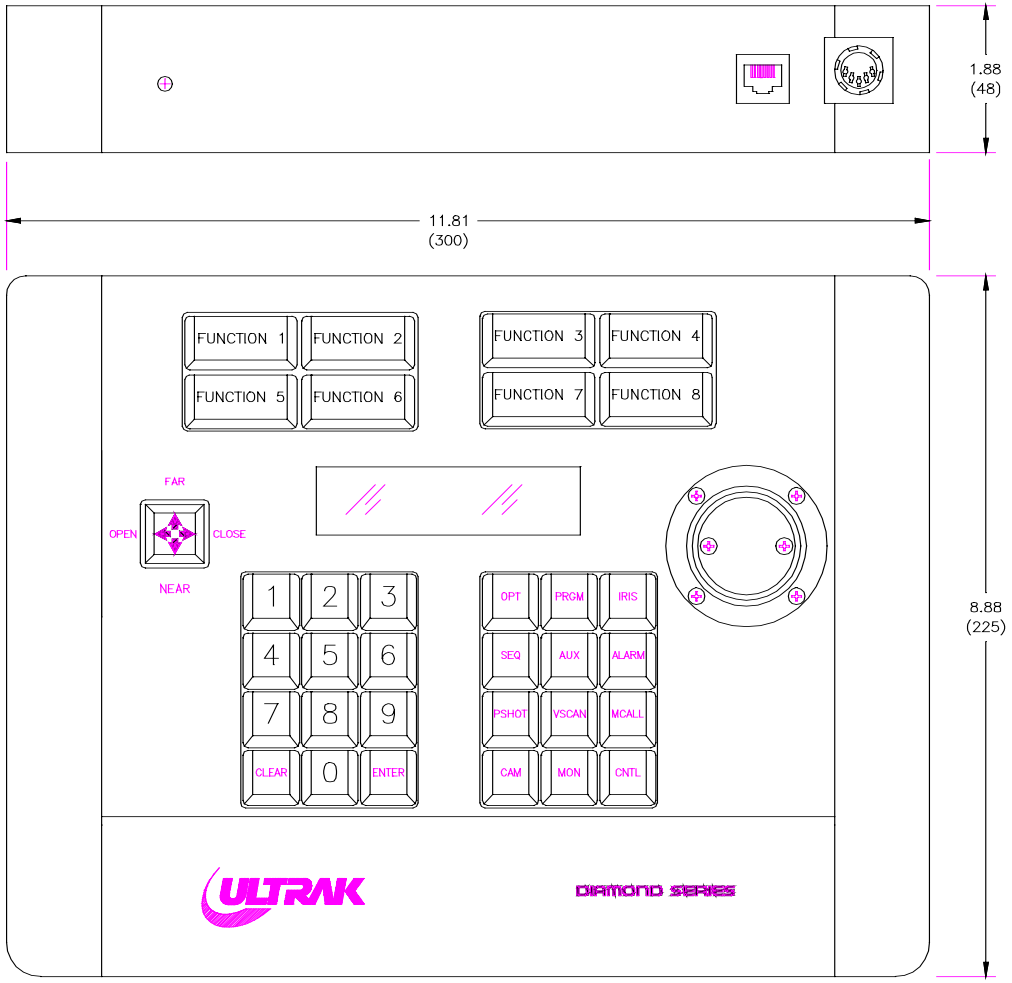
The following drawings may be used as a reference before performing a system-level installation.

Title	Page
JPD-100/P Smart Hand Controller Unit Installation (D/N 517057-5430)	3-14
DIA-01 Control Interface Adapter Installation (D/N 515558-2430)	3-15
DIA-01/X Control Interface Adapter Installation (D/N 515558-4430)	3-16

517057-5430	D
DWG. NO. SHEET 1 OF 1	REV.

MATERIAL LIST

QTY	DET. NO.	PART NUMBER	DESCRIPTION



NOTES :

1. ALL DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS.
2. WEIGHT : APPROX 3 lbs (1.4 kg)
3. VOLTAGE REQUIREMENT : +5VDC ±5%
4. POWER REQUIREMENT : 300ma MAX.
5. OPERATING TEMPERATURE : +32°F (0°C) TO +120°F (+50°C)
6. HUMIDITY LIMITS : 0 TO 95% RELATIVE, NON-CONDENSING
7. COMMUNICATION : RS-422 TWISTED WIRE PAIR
8. BAUD RATE : 19.2K
9. OP1 – CAMERA POWER, FIND HOME, DIAGNOSTICS, SMARTSCAN LISTINGS, CAMERA # DISPLAY, AZM. DISPLAY.
10. EACH JPD-100/P MUST BE GIVEN A UNIQUE ADDRESS (1-8). THE ADDRESS IS SET BY JUMPERS ON THE CIRCUIT BOARD INSIDE THE JPD-100/P CONTROLLER. REFER TO THE FOLLOWING TABLE FOR THE JUMPER SETTINGS.

CONTROLLER ADDRESS	W6	W7	W8
1	OUT	OUT	OUT
2	IN	OUT	OUT
3	OUT	IN	OUT
4	IN	IN	OUT
5	OUT	OUT	IN
6	IN	OUT	IN
7	OUT	IN	IN
8	IN	IN	IN

STOCK NO. 517057-5040

REV.	DATE	REVISIONS	BY	APPV'D
D	2-26-99	REVISED LOGO	JF	
C	7-21-95	REVISED NOTE 8	CH	CLW
B	8-26-94	REVISED KEYPAD	CH	CLW
A	03-29-94	REMOVED NOTE 10	KM	CLW

DO NOT SCALE DRAWING
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED
TOLERANCES: INCH SYSTEM FRACTIONAL = ±1/32 DECIMAL .XX = ±.020 .XXX = ±.010 ANGLES = ±0° 30' METRIC SYSTEM .XX = ±.25 MM .X = ±.50 MM X = ±1.5 MM
DEBURR HOLES AND BREAK SHARP EDGES .005 TO .015

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ORIG DWG | CAD NO. | MATERIAL SPEC. | FINISHING SPEC.
NEXT ASSEMBLY | USED ON

INSTALLATION, JPD-100/P
SMART HAND CONTROLLER UNIT

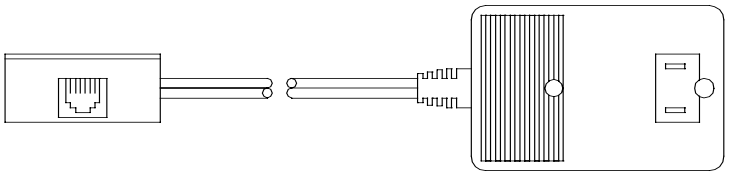
DRAWN CH DATE 1-31-94
QC DATE
MFG DATE
CHKD DATE
DES ENG SAT DATE 1-31-94

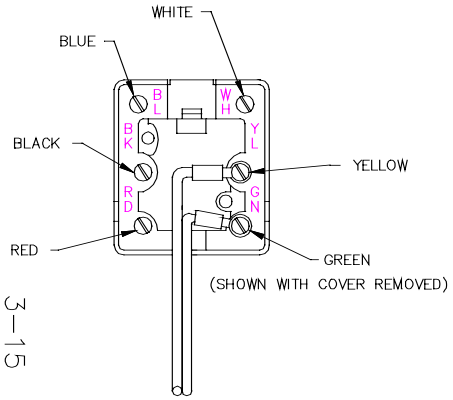
ULTRAK®
P.O. BOX 200 LANCASTER, OH 43130
TEL: (740)-756-9222 FAX: (740)-756-4237

CODE IDENT NO. 55819 | SCALE FULL | 517057-5430 | D
SIZE C | DWG. NO. SHEET 1 OF 1 | REV.
PRODUCT DESIGNATION- JPD-100/P

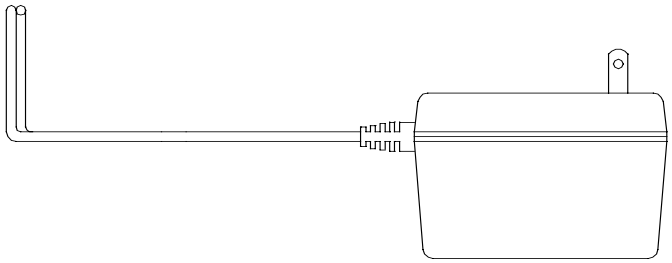
515558-2430	A
DWG. NO. SHEET 1 OF 1	REV.

MATERIAL LIST			
QTY	DET. NO.	PART NUMBER	DESCRIPTION





(SHOWN WITH COVER REMOVED)



NOTES:
1) POWER REQUIREMENTS: 120 VAC ±10%, 60 HZ, 5 WATTS
2) CUSTOMER SUPPLIED CABLE TO CONNECT CONTROL INTERFACE ADAPTER TO CONNECTOR ON APPROPRIATE EQUIPMENT AS REFERENCED BELOW.
3) RECOMMENDED CONTROL CABLE:
   2 CONDUCTOR – 1 TWISTED SHIELDED PAIR BELDEN #8641 OR EQUIVALENT (DIAMOND #849518-0323)
   4 CONDUCTOR – 2 TWISTED SHIELDED PAIR BELDEN #8102 OR EQUIVALENT (DIAMOND #849518-0327)

TERMINAL	FUNCTION	DOME CONN. PIN #	CCU-100 CONN. PIN #
BLACK	TX +	4	4
RED	TX –	3	5
YELLOW	GND	N/A	N/A
GREEN	+5V	N/A	N/A
WHITE	RX +	N/A	2
BLUE	RX –	N/A	1

3-15

REV.	DATE	REVISIONS	BY	APP'D
A	5/31/96	REMOVE MARK ON CABLE ECR 11239	BH	HRS

DO NOT SCALE DRAWING
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED
TOLERANCES: INCH SYSTEM FRACTIONAL = ±1/32 DECIMAL .XX = ±.020 .XXX = ±.010 ANGLES = ±0° 30' METRIC SYSTEM .XX = ±.25 MM .X = ±.50 MM X = ±1.5 MM
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ORIG DWG
CAD NO.
MATERIAL SPEC.
FINISHING SPEC.
INSTALLATION, CONTROL INTERFACE ADAPTER
NEXT ASSEMBLY
USED ON

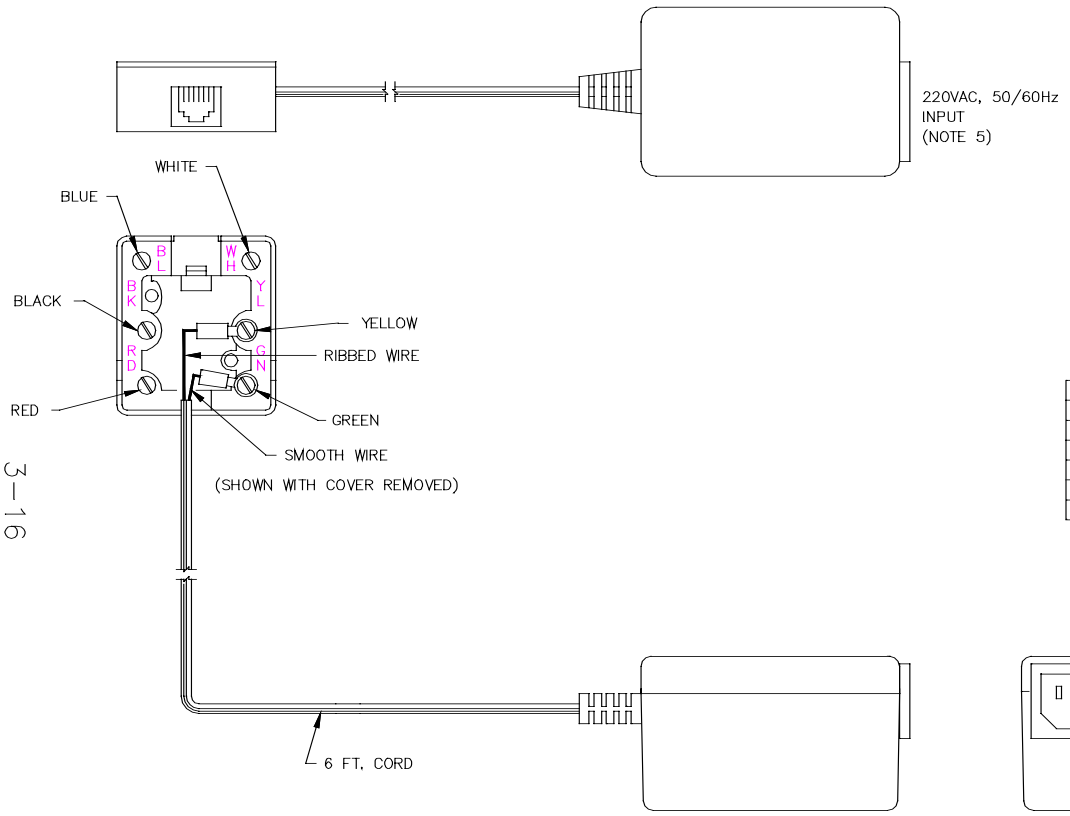
DRAWN BAM DATE 4-8-92
QC MLC DATE 5-22-92
MFG CAB DATE 5-11-92
CHKD CH DATE 4-8-92
DES ENG SAT DATE 4-8-92

ULTRAK®
P.O. BOX 200 LANCASTER, OH 43130
TEL: (740)-756-9222 FAX: (740)-756-4237

CODE IDENT NO. 55819
SIZE C
SCALE FULL
515558-2430 A
DWG. NO. SHEET 1 OF 1 REV.
PRODUCT DESIGNATION- DIA-01

515558-4430	C
DWG. NO. SHEET 1 OF 1	REV.

MATERIAL LIST			
QTY	DET. NO.	PART NUMBER	DESCRIPTION



NOTES:
1. POWER INPUT REQUIREMENTS : 100–250VAC, 47–63Hz, 400MA
2. POWER OUTPUT : 5VDC, 2.4A
3. CUSTOMER SUPPLIED CABLE TO CONNECT CONTROL INTERFACE ADAPTER TO CONNECTOR ON APPROPRIATE EQUIPMENT AS REFERENCED BELOW.
4. RECOMMENDED CONTROL CABLE :
   2 CONDUCTOR – 1 TWISTED SHIELDED PAIR BELDEN #8641 OR EQUIVALENT (DIAMOND #849518–0323)
   4 CONDUCTOR – 2 TWISTED SHIELDED PAIR BELDEN #8102 OR EQUIVALENT (DIAMOND #849518–0327)
5. IEC POWER CABLE INCLUDED.

TERMINAL	FUNCTION	DOME CONN. PIN #	CCU–100 CONN. PIN #
BLACK	TX +	4	4
RED	TX –	3	5
YELLOW	GND	N/A	N/A
GREEN	+5V	N/A	N/A
WHITE	RX +	N/A	2
BLUE	RX –	N/A	1

3–16

STOCK NO. 515558–4030

REV.	DATE	REVISIONS	BY	APPV'D
C	11/19/97	REVISED NOTE 5 PER 11523	CH	JDC
B	5–21–96	REVISED NOTE 5	CH	JE
A	3–1–96	ADDED NOTE 5	CH	CLW

DO NOT SCALE DRAWING
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES: INCH SYSTEM FRACTIONAL = ±1/32 DECIMAL .XX = ±.020 .XXX = ±.010 ANGLES = ±0° 30' | METRIC SYSTEM .XX = ±.25 MM .X = ±.50 MM X. = ±1.5 MM

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ORIG DWG | CAD NO. | MATERIAL SPEC. | FINISHING SPEC.
NEXT ASSEMBLY | USED ON

INSTALLATION, DIA–01/X (CE)
CONTROL INTERFACE ADAPTER

DRAWN CH DATE 2–9–96
QC DATE
MFG DATE
CHKD DATE
DES ENG DLS DATE 2–14–96

ULTRAK®
P.O. BOX 200 LANCASTER, OH 43130
TEL: (740)–756–9222 FAX: (740)–756–4237

CODE IDENT NO. 55819 | SCALE – | 515558–4430 | C
SIZE C | DWG. NO. SHEET 1 OF 1 | REV.
PRODUCT DESIGNATION– DIA–01/X

SECTION 4. MAINTENANCE

4.1 GENERAL

This section contains the information on preventive maintenance and troubleshooting at a user's level.

4.2 MAINTENANCE PROCEDURES

a. Preventive Maintenance

Use of preventive maintenance allows detection and correction of minor faults before they become serious enough to cause equipment failure. As a result, major repairs can be avoided, and the equipment can be maintained in an operable condition with a minimum of maintenance.

Every 3 months, perform the following.

1. Inspect all interface connecting cabling for deterioration or other damage.

2. Clean the front panel with a soft cloth using any mild commercial cleaner.

b. Troubleshooting

If problems occur at the initial installation phase, they are probably due to improper installation/set-up. Verify that the procedures in Section 4 have been performed correctly and the connectors are seated fully into the interconnecting equipment. Because this unit is just one part of an overall system, it may be necessary to verify that the other equipment types have been installed and are operating correctly before assuming the problem exists at the Hand Controller unit.

If problems still exist after verifying correct installation and the problem has been isolated to the JPD-100/P, then it must be removed for servicing. **THERE ARE NO USER-SERVICEABLE PARTS COMPRISING THE SMART HAND CONTROLLER UNIT. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.**

c. Battery Replacement

The JPD-100P has a lithium battery located on the control board at XU4A. The life expectancy of the battery is 10 years. If necessary, replace the battery with a Dallas #DS1213C. This battery is also available through Ultrak as part number 840301-0025. Use of another battery may present a Risk of Fire or Explosion.

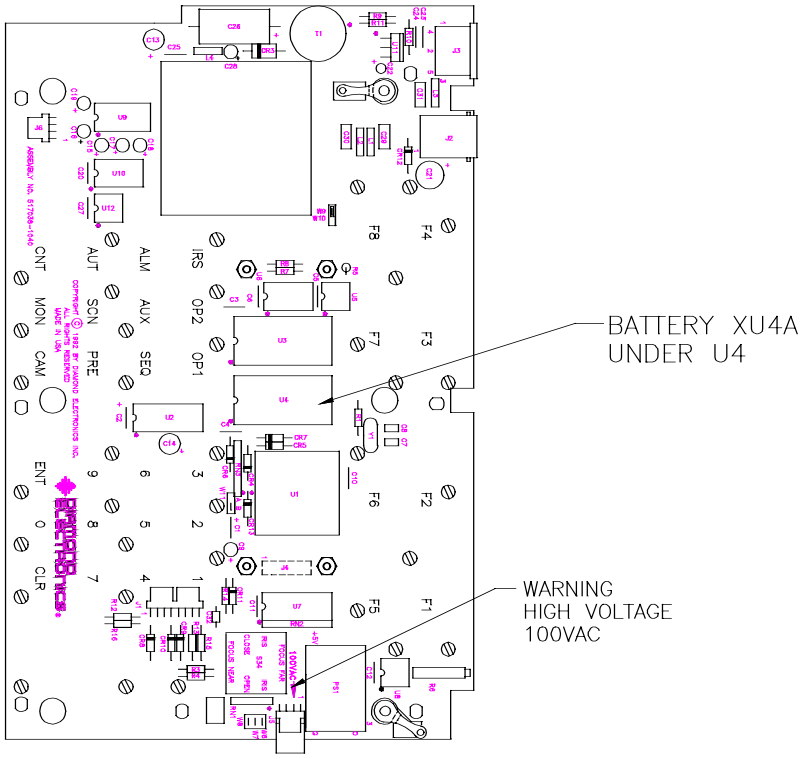
CAUTION

Battery May Explode If Mistreated. Do Not Recharge, Disassemble Or Dispose Of In Fire.

WARNING

REMOVE POWER TO THE UNIT PRIOR TO REMOVING THE COVER. THERE IS HIGH VOLTAGE PRESENT ON THE CIRCUIT BOARD. REFER TO THE FOLLOWING FIGURE FOR LOCATION OF HIGH VOLTAGE.

To replace the battery, remove the bottom cover from the controller by removing the eight (8) screws on the bottom cover.



4.3 RETURNING EQUIPMENT TO ULTRAK

Any equipment returned to Ultrak for warranty or service repair must have a prior written Authorization to Return Material (ARM) form completed for its repair. Contact:

Ultrak, Inc.
Service Department
4465 Coonpath Road
Carroll, Ohio 43112
(740) 756-9222
1-800-443-6681 (Toll Free USA)

APPENDIX A. REFERENCE MATERIALS

A.1 USER'S MANUAL INDEX

The following user's manuals are for equipment associated with the JPD-100/P Smart Hand Controller Unit.

Title	Manual Number
CCU-200 Communications Control Unit User's Manual	518000-1960
MUX-100 Multiplexer Unit User's Manual	517815-3960
CCU-100/B Central Control Unit User's Manual	517815-2960
MSI-100 Medium System Interface User's Manual	517850-1960
Universal SmartScan, SmartScan Pro, and SmartScan Pro II Operation and Programming Manual	518005-2960
FastScan Assembly Operations Manual	515765-6910
FastScan Pro II Assembly Operations Manual	517721-4960
FastScan/SmartScan Assembly with Universal Firmware for 15" Domes and 9" Dropped Ceiling and Hard Ceiling Domes Installation Manual	518005-1960

Title	Manual Number
FastScan/SmartScan Assembly with Universal Firmware for 9” Pendant Domes Installation Manual	518006-1960
SmartScan and SmartScan Pro II with Receiver Board 518073-1030 and Firmware 518181-1980 Operation & Programming	518181-1960
SmartScan and SmartScan Pro II with Receiver Board 518073-1030 and Firmware 518181-1980 Installation Technical Tips	518120-3960
SmartScan IIIC Operating and Programming Manual	518274-1960
SmartScan IIIC Installation Manual	518358-2960
UltraDome KD6 Operating and Programming	518584-2960
UltraDome KD6 Installation & Maintenance	518565-1960
KD6 Z-Series Dome Operating and Programming Manual	518854-1960
CATS Series Video Switchers Installation Manual	517851-1960
CATS Series Video Switchers Operation and Programming Manual	517851-2960

APPENDIX B. QUICK REFERENCE GUIDE

JPD-100/P CONTROLLER

FASTSCAN®/SMARTSCAN® MANUAL CONTROL	
FUNCTION	**PROCEDURE (Keystrokes are separated by a ">")**
Select Control Camera	Camera #> CNTL
Select Control Monitor	Monitor #> MON> CNTL
Select 2nd Camera	Camera #> CAM
Select 2nd Monitor	Monitor #> MON
Call 2nd Camera to 2nd Monitor	ENTER
Control 2nd Camera & Monitor	CNTL
Clear 2nd Camera & Monitor	Press CLEAR until display disappears
Manual/Auto Iris (option)	IRIS>1 (auto) or 2 (manual)

SMARTSCAN CONTROL & PROGRAMMING	
FUNCTION	**PROCEDURE (Keystrokes are separated by a ">")**
Set Address in KD6 Z-Series Dome	OPT>1>2>8-digit serial #>Enter>Camera# (address)>Enter
Manual Control	Move large joystick in any direction or OPT> 2>1
Find Home	OPT> 2>2
Program "Quick" PreShot	Adjust pan, tilt, zoom, & focus>PRGM>PreShot #>Enter
Go to PreShot (2nd Camera Selected or Control Camera if 2nd Camera Not Selected)	PreShot #> PSHOT
List PreShots	OPT> 5> 1 Press 1 to view next page, press 2 when done viewing list.
Program VectorScan (1-3) in KD6 Z-Series Dome	OPT> 4>2>VectorScan#>Enter>PreShot#> Enter>Dwell Time>Enter>●●●>PreShot#>Enter> Dwell Time>Enter>Clear
Start VectorScan (2nd Camera Selected or Control Camera if 2nd Camera Not Selected.)	VectorScan #> VSCAN

SMARTSCAN CONTROL & PROGRAMMING	
FUNCTION	**PROCEDURE (Keystrokes are separated by a ">")**
List VectorScans	OPT> 5> 3> 1 (to view next page) or 2 (done)
List VectorScan Contents	OPT> 5> 4> VectorScan #> Enter> 1 (Up 1 line), 2 (Down 1 line), or 3 (Exit)
List Sector ID's	OPT> 5> 2> 1 (view next page) or 2 (done)
Program Tour (KD6)	OPT>4>1>Tour #>Enter>1 (Start) 3 (End)
Run Tour (KD6)	OPT>1>4 Activate or deactivate function keys 5, 6, and 7 to run tours. When activated function keys 5, 6, and 7 run tours 1, 2, and 3.
Freeze/Unfreeze Video (KD6)	OPT>1>3 Activate or deactivate function key 8 to freeze or unfreeze video. When activated, function key 8 toggles between freeze and unfreeze

AUXILIARY CONTROL (Control Camera)	
FUNCTION	**PROCEDURE (Keystrokes are separated by a ">")**
Auxiliaries at Control Camera (CATS Video Switcher or MSI-100 Auxiliaries are controlled using camera 1)	Auxiliary #> AUX or AUX> Auxiliary #> 1 (ON) or 3 (OFF)

ALARM CONTROL (Must have an AIU-100 Alarm Interface Unit or AIF-100 Auxiliary Alarm Interface Unit connected to CCU-100/B or CCU-200)		
FUNCTION	**DEFINITION**	**PROCEDURE (Keystrokes are separated by a ">")**
Enable Alarm(s)	Enable one alarm or all alarms	Alarm #> ALARM> 1> 1 (enable alarm called up) or 3 (enable all alarms)
Disable Alarm(s)	Disable one alarm or all alarms	Alarm #> ALARM> 2> 1 (disable alarm called up) or 3 (disable all alarms)

ALARM CONTROL (Must have an AIU-100 Alarm Interface Unit or AIF-100 Auxiliary Alarm Interface Unit connected to CCU-100/B or CCU-200)		
FUNCTION	**DEFINITION**	**PROCEDURE (Keystrokes are separated by a ">")**
Acknowledge Alarm(s)	Acknowledge oldest alarm or all alarms	Alarm #> ALARM> 3> 1 (acknowledge oldest alarm) or 3 (acknowledge all alarms) or ALARM>1 (Acknowledge Oldest Alarm) or 3 (Acknowledge All Alarms)

MULTICALL CONTROL		
FUNCTION	**DEFINITION**	**PROCEDURE (Keystrokes are separated by a ">")**
Run MultiCall	Start a MultiCall that is stored in the CCU-100/B or the MSI-100	MultiCall #> MCALL>1
Halt All MultiCalls	Stops all the MultiCalls that are running in the system regardless of where they were started from.	MCALL> 3 Note: If a VectorScan was started as part of a MultiCall, the VectorScan continues to run, after the MultiCall has been halted, until manual control is taken of the SmartScan unit where the VectorScan is stored.
Stop Specific MultiCall		MultiCall#>MCALL>3
Hold Specific MultiCall		MultiCall#>MCALL>6>6
Control MultiCall One Step At A Time		MultiCall#>MCALL>6> 1>forward one step or 3>back one step When done stepping through MultiCall 4>continue MultiCall 6-Exit and leave MultiCall on hold
Continue Running MultiCall on Hold		MultiCall#>MCALL>6>4

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